RESIDENT DREAM

Dermatology Residents Education And Motivation Bulletin

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A newsletter for IADVL Residents

January - 2018

EDITORIAL

'Reading is to the mind what exercise is to the body'

- Joseph Addison

With every issue of the newsletter comes a great challenge of what new and inspiring to offer to our young and robust readers. The articles selected are carefully tailored to benefit residents in their journey through post-graduation and beyond. We try to be innovative and sometimes adventurous with our selection of content for this resident oriented bulletin. The new year not only rolls in the latest edition of the Resident DREAM but also marks the end of the one-year tenure of the editorial team. My heartfelt gratitude to the national executive and all the enthusiastic residents on board who with their zeal and passion have made our journey, as one to remember. As the captain of the ship, it was indeed my privilege to help students discover their eagerness for writing not only dermatological articles but also write ups with a social and sometimes fun message. We are still in the process of evolving and will do better with each passing year with the support and encouragement of residents and teachers from all across the country and maybe even the world someday.

The present issue is unique in many ways. With its release slated at Dermacon, Kochi, it marks the first issue of the newsletter to be released in the year 2018. To celebrate this event, we will be distributing copies of the bulletin to post graduates during the Residents session at Dermacon. We have an outstanding and unique array of articles meant to motivate and encourage young minds on this exceptional voyage of theirs.

For the tree of knowledge to grow and prosper, connection with its roots is a must. Reintroducing the generation next to our heritage in 'The Origins: History of Dermatology, Venereology and Leprology in India'.Hailing from an army background I have always admired the bravery and valour of our guardians, the next segment will show our readers the life, journey, challenges and pride of the uniformed officers of the armed forces, guiding the young guns on how to pursue a career of a lifetime in 'Dermatologists in uniform: Life and career in the Armed Forces'. 'The Arena' brings you face to face with the ongoing battle of 'Generics vs Brands' and their impact on our specialty, two talented residents share their views on this nationwide debate. Dermatology notes I gives the residents a comprehensive

approach to one of the most volatile topics in dermatology, Porphyrias. The exam oriented notes provide a quick revision of this tough yet frequently asked topic.

As a fresh dermatology recruit, one never fails to notice the stigma attached with skin diseases, almost ruining lives and careers of many, also reminding us as to how counseling is an indispensable part of our specialty. Giving us a narrative of her experience with vitiligo is a first-year resident in 'Vitiligo - White patches that paint minds black; A young dermatologists' musings'. The glamour of aesthetic dermatology is no doubt very appealing but a solid foundation of clinical dermatology has no alternative. Guiding the young residents as they take their first steps towards being practitioners is our next article 'Clinico-Aesthetic dermatology: A balancing act'. Giving us an overview of the newer antifungals in dermatology is another exam oriented article'Dermatology notes II'. No edition is complete without the iconic neuron stimulating quiz. Mind buzzer will surely fuel your quizzing instincts.

Our next segment is a light-hearted take on the pretentious duckling trying to quack into the dermatological domain. Out of the box presents 'The Incognito mode' giving us a peek into the world of quackery and its effect on doctors at large. Following closely is the answer key of mind buzzer and the feed back section. We are grateful to those readers who take time out and send us mails regarding what they like and what we could improve on, it is because of you that we strive harder and harder to deliver our best.

It is time to draw the curtains to a close and I wish the incoming editorial team and all our post graduates the very best. I would like to leave the residents with this message, there may be times when one feels overburdened, one wants to give up and let circumstances take their course but that's when you get up, challenge yourself and rise against all odds. Always remember you are your only competition, surpass what you were yesterday and you are definitely a step closer to your goal.

Have a good read!

Signing off,

Dr. Saloni Katoch

(Editor-In-Chief)

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I am sure that RESIDREAM will give due publicity to all PG focused activities so that there is maximum participation. Do encourage all your friends to take greater part in IADVL activities.

PARTING REMARKS FROM THE DESK OF THE IADVL NATIONAL PRESIDENT

My tenure as the National President is coming to an end. I have travelled a lot and attended many scientific events/ conferences.I was very happy to see PGs taking the lead in planning, organizing and executing scientific activities of IADVL.

I had a chance to attend a few quiz sessions as well and it was satisfying to see that the knowledge level of participants was very high. The literary skills of PG's are duly reflected in the Resident DREAM and other social publications of IADVL.

As a thesis/scholarship/research projects evaluator, I realized that more and more PGs are tilting towards research and some of the projects were of very high scientific theme.I take this opportunity to congratulate all of you. Keep it up.

I would like to share what I have done on the academic front during the previous year.

1. PG thesis grant- 18 grants of Rs.50,000/- each has been approved.
2. PG thesis based Award paper session was initiated during MIDDERMACON, Navi Mumbai and will be continued in further DERMACONs.
3. IADVL PG Education Task Force meeting was convened in New Delhi. PG teaching, evaluation and exam pattern were discussed in a thread-bare manner by esteemed teachers.
4. We are coming out with print version of IDOJ from 2018 so that the contributors will get due credit form the MCI perspective.
5. IJDVL is coming out with Thesis based article section and the best article will get a prize as well.

I am sure that RESIDREAM will give due publicity to all PG focused activities so that there is maximum participation. Do encourage all your friends to take greater part in IADVL activities. You are the future of IADVL and looking at your talent, enthusiasm and commitment, I am sure that IADVL will scale greater and greater heights in years to come.

I will be giving my charge to Dr. Ramesh Bhat, a teacher and a leader of very high caliber, but I will always be available to all of you for help, guidance and support.

Best Wishes and Happy learning for the year 2018.

Let us create brilliance together.

Dr. Yogesh S Marfatia
National President, IADVL

FROM THE DESK OF HONORARY SECRETARY GENERAL

I wish the incoming team the very best and sincerely hope that this newsletter continues to resonate with fresh ideas and concepts and further carve its niche in the life of each and every Dermatology Resident across the country.

It is a feeling of great pleasure and happiness that the Resident DREAM (Dermatology Resident Education & Motivation) newsletter has completed four glorious years as the mouthpiece of the residents, by the residents, and for the residents. All through this sojourn, this newsletter has attempted to address the pressing concerns of the residents and provide a platform for exchange of ideas to prepare them for life after residency.

This year, we had aboard the editorial team a bunch of enthusiastic and capable residents - Dr. Isha Narang, Dr. Adrija Datta, Dr. Ruchi Shah, Dr. Komal Agarwal and Dr. Preethi B Nayak - from all across the country. The team was ably led by the gifted and proficient Dr. Saloni Katoch who did a brilliant job as the Chief Editor. I offer my congratulations to all of them for their efforts this year and look forward to seeing them taking up greater responsibilities in the speciality and the associationin the days and years ahead.

It will be time soon to hand over the baton to the next Hon. Secretary General who will constitute a new editorial team for this newsletter. I wish the incoming team the very best and sincerely hope that this newsletter continues to resonate with fresh ideas and concepts and further carve its niche in the life of each and every Dermatology Resident across the country.

I take this opportunity to request all residents to sign up at www.iadvl.org and gain access to a surfeit of online membership privileges. I would also appreciate if all of you download the IADVL DermApp and use the same to stay tuned to association announcements and to each other. I sign off by wishing all residents a bright and successful career ahead.

Dr. Shyamanta Barua

Hon. Secretary General, IADVL

"If you don't know History, then you don't know anything. You are a leaf that doesn't know it is part of a tree" - Michael Crichton

The journey of dermatology in India is worth mentioning about, from being an insignificant subspeciality of general medicine, dermatology has now grown magnanimously not only into a complete triple speciality but it has now its own off shoots and various subdivisions.

Dermatology has always been important even in early antiquity, since most primitive efforts of early man was directed towards getting rid of sores, itch, scabs etc.

The history of dermatology in India dates back to the era of epics like Ramayana and Mahabharata,[1] which mention about various ailments of skin and skin care. Even in 1500-800 B.C. during the period of Vedas, various texts mention about daily skin care regimens like trimming of hair, nail, beard, oil massages, use of toiletries etc. The Atharva-Veda took a religious approach to address the skin problems, it has two hymns that deal with skin colouration("unlucky marks" and "yellowness") and few other hymns on hair problems.

The Charaka Samhita[2] and Sushruta Samhita were based on more scientific observations and metaphysical thoughts. The Samhitas have two chapters exclusively dedicated to pathology and other therapeutics of skin diseases.The Charaka Samhita mentions 18 types of dermatoses with more emphasis on morphology,it also mentions that the skin is composed of six layers.

The British legacy in India did serve as a boon for the health system as a whole, during that time our country was dealing with various social taboos with respect to skin diseases. Dr. Vandyke Carter,[5] surgeon major of HMS Indian Medical Services was familiar with dermatological work of Joseph Towne in London, moreover Carter himself had special interest in diseases like leprosy and mycetoma. Thus, due to keen interest of Carter, the first scientific endeavour to study dermatoses in India began.

The Sushruta Samhita gives a vivid account of surgical techniques for management of skin ulcers, ear-lobe piercings, skin incisions and suturing.The work "Kushtha", an ancient terminology for leprosy was first mentioned in these Samhitas, the Charaka Samhita classified 'Kushtha' into 7 types and Sushruta Samhita classified it into 18 types.

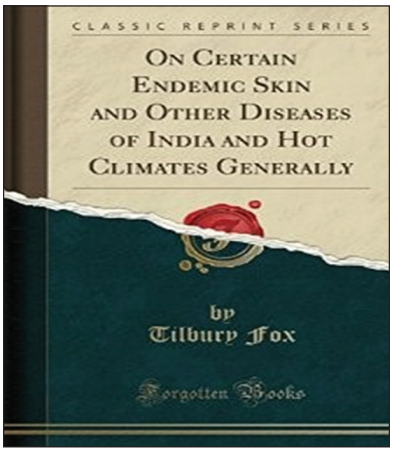
The post-vedic period saw rise of the Siddha system of medicine, where the skin diseases were grouped under the term 'Kuttam'. It mentions about various skin diseases like urticaria ('thinvup-pun'), dermatitis ('sarumap-pun') and acne ('paru').[3]

With Islamic invasion there was a drastic shift from the Ayurvedic and Siddha system to Unani and Tibb. In the Unani texts skin diseases have been mentioned as 'Amraze Jildiya'.[4] The text mentions about various skin conditions like scabies ('Jarb') and itching ('Kharish').

The British legacy in India did serve as a boon for the health system as a whole, during that time our country was dealing with various social taboos with respect to skin diseases. Dr. Vandyke Carter,[5] surgeon major of HMS Indian Medical Services was familiar with dermatological work of Joseph Towne in London, moreover Carter himself had special interest in diseases like leprosy and mycetoma. Thus, due to keen interest of Carter, the first scientific endeavour to study dermatoses in India began.

In 1872, Fox and Farquar were commissioned to study the prevalence and pattern of skin diseases in India, and to establish a uniformity in nomenclature, diagnostic and therapeutic regimens with the help of specialists in England. Later all this information was compiled into a book by Tilbury Fox.[6]

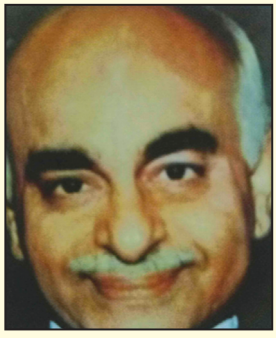
William Tilbury Fox



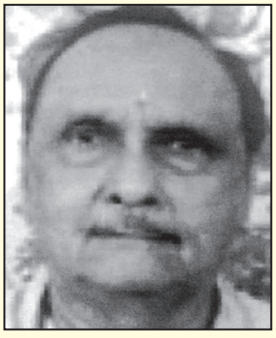
A reprint of the book by Tilbury Fox
(source : www.forgottenbooks.com)

Indians have widely contributed to the field of Dermatology, some of the prominent names are Prof. B. N. Banerjee (First professor of dermatology in India, Father of modern dermatology in India), Dr. P. N. Behl, Dr. L. K. Bhutani, Dr. Ajit Kumar Dutta, Dr. Sharat C. Desai (established the first Department of dermatology in India at Mumbai and created the first residency programme in dermatology), Dr. A. S. Thambaiah (Father of dermatology practice in India and the first Indian to receive MRCP), Dr. B.V. Satyanarayana (the first qualified Indian dermato- venereologist), Dr. V. L. Rege, Dr. B. C. Lahiri and others.

Dr. P.N.Behl
Father of dermatological surgery in India



Dr. L.K. Bhutani



Dr. Sharat C. Desai,
Established the first department and residency programme

Dr. B.N.Banerjee
Father of modern dermatology in India

VENEREOLOGY

Venereology is not new to India, though the origin is quite obscure. There is mention of various genital ulcerative disorders in ChikitsaSamgraha of Chakrapani Dutta in 11th century and in ChikitsaPaddhati of Sarangdhaara in 13th century. An ancient mid-sixteenth century text called Bhavaprakasa mentions syphilis as 'firanga' or 'firangiroga' and its treatment.Kenneth McLeod first recognized Donovanosis in Madras(now Chennai) in 1881 under the name "serpiginous ulcer" and the organism was identified by Colonel Charles Donovan hence the name 'Donovan bodies.' Later in 1902, Caddy first recorded cases of Lymphogranuloma Venereum in India as "Climactic bubo."[7-9]

From the late 18th century onwards 'lock hospitals' were used to confine prostitutes suffering from STDs. By the end of first world war, few hospitals had facilities for investigation and treatment of STDs. In 1918 a special clinic was opened in Mumbai to serve the red light district. But even till the mid 20th century there was no organized treatment for STDs.

In 1946 a national STD control programme came into effect, and with this began the era of development in field of venereology. But it was only during the first five year plan that a proper venereal disease organization came into existence in Himachal Pradesh and a venereal disease training and demonstration centre in New Delhi respectively.

The year 1954 was pivotal with India starting production of penicillin for its own use. Therefore, the second five year plan concentrated on setting up laboratories,training of health personnel and free supply of penicillin. During the third five year plan routine screening of syphilis during pregnancy was introduced along with integration of venereal disease control programme. The fourth five year plan did not only set up 5 state head-quarter venereal diseaseclinics but also established 4 mobile units.

HIV was reported from Chennai in 1986 and by 1988 it had become a rampant problem in India, therefore the National AIDS control Program was started in 1987.NACO(National AIDS Control Organization) was set up in 1992 and the National STD control program was amalgamated with it.

The world AIDS day is celebrated on 1st December each year to spread awareness about the AIDS pandemic.

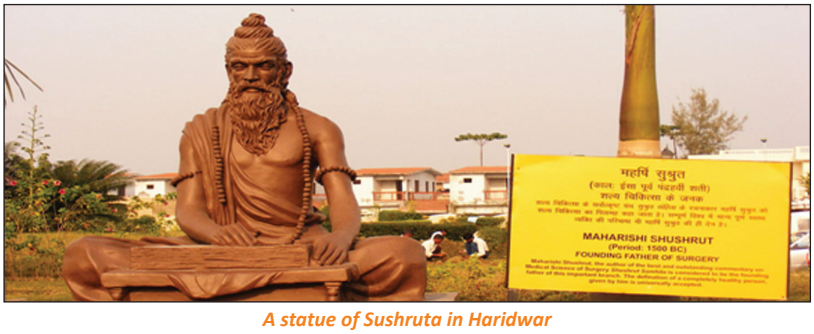
Though use of microscopy and serology for venereal diseases in India dates back to 1910 but it was only in 1952 that the first ever institute of Venereology was set up at Madras Medical College. Dr. C.N. Sowmini, the director of this institute started the Indian Association for the Study of Sexually Transmitted Diseases(IASSTD) in 1975. In 1993 after the rampant advent of AIDS in India, the name was changed to IASSTD and AIDS.The current president of this association is Dr. K. Venkateswaran.

Dr. C.N. Sowmini
First lady to specialise in the field of Venereology

The official journal was the Indian Journal of Sexually Transmitted Diseases founded by Dr. Sardas Lal. This Indian Journal of Sexually Transmitted Diseases is now known as Indian Journal of Sexually Transmitted Disease and AIDS, and the current editor is Dr. Y.S. Marfatia. IASSTD and AIDS published its first textbook on sexually transmitted diseases back in 2002 with the editor-in-chief being Dr. V.K. Sharma. Other towering personalities in the field of venereology are Dr. R.V. Rajam, Dr. P.N. Rangaiah, Dr. C.W. Chacko and Dr. Vasudev Rao.

LEPROLOGY

Leprosy has been mentioned in numerous ancient Indian literatures. Sushruta Samhita describes the clinical features and various forms of leprosy. Terminologies like Vat Rakta and Vat Shonita (loss of sensation and deformities) and Kushtha (skin diseases) or more appropriately Arun Kushtha (leprosy) have been used. In ancient Indian literature leprosy is not only confined to these terminologies, but it also describes two kinds of Arun Kushtha - one that deals with loss of sensation and deformity and the other with falling of fingers and ulcerations.



A statue of Sushruta in Haridwar

Sushruta also described rhinoplasty, neurolysis for ulnar neuritis and the use of Chaulmoogra or hydnocarpus oil (later demonstrated to have bacteriostatic properties by Dr. M.B. Bhide of Haffkine Institute).

Isolation of patients into leprosaria's and use of folk remedies were the only management strategy in the pre-dapsone era. The first asylum for leprosy patients was established in Calcutta in the 19th century. In 1875 'the Leprosy mission' or 'Mission to Lepers' began at Chamba, Himachal Pradesh.

Organized efforts against Leprosy in India began only after

formation of Indian council of the British Empire Leprosy Association (BELRA) in 1925 which later was renamed as Indian Leprosy Association or the Hind Kusht Nivaran Sangh. The Indian council of BELRA did remarkable work and started a quarterly journal named "Leprosy in India" under the guidance of Dr. Ernest Muir.

There has been phenomenal growth of Leprosy centres and institutions in the past half decade, the first one being at the leprosy Department of School of Tropical Medicine in Calcutta in 1950. Later by 1955 various other centres came into existence.

The year 1955 was notable in the history of Leprosy since the government of India launched the National Leprosy Control Programme (NLCP) which concentrated on early detection and dapsone monotherapy. Thus 1955-1965 has also been called the golden era of sulphone monotherapy. But with the emergence of drug resistance, multidrug therapy was started in 1983, and in the same year NLCP was redesignated as NLEP (National Leprosy Eradication Programme) which aimed to eradicate Leprosy by the year 2000 by early detection and prompt treatment by multidrug therapy.

India successfully eliminated leprosy on December 2005. Anti-Leprosy day is observed on 30th January each year to create mass awareness.

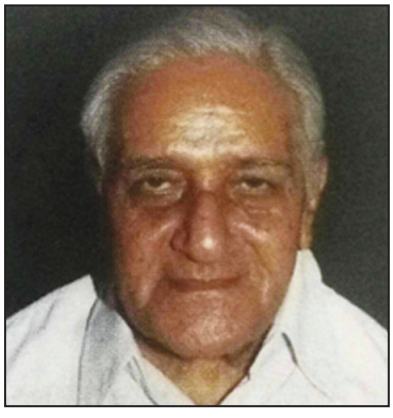
India has made remarkable contribution to the diagnosis and management of this much feared disease. Not to forget our very own Indian stalwarts like Dr. Issac Santra, Dr. S.N. Chatterjee, Dr. Dharmendra, Dr. Surinder Kaur and others.

Dr. Dharmendra, better known as Father of leprosy in India is one of the heroes of the famous Indian anti-leprosy movement. He is known for his work on lepromin test, the Indian classification of leprosy and as the editor of the 'Indian Journal of Leprosy' (earlier known as the journal 'Leprosy in India')

Dr. V. M. Katoch is the present editor of the journal. The Indian Association of Leprologists was also founded by Dr. Dharmendra in Calcutta. The pioneer in leprosy, Dr. R. Ganapati was awarded the Padmashri award in 1983. Dr. Charles Kamalam Job, another pioneer in leprosy was awarded the life time achievement award for devoted work in leprosy in 2009, he is considered to have more research papers on leprosy compared to all other leprosy workers throughout the world.

The much studied IAL textbook of Leprosy which is now in its second edition was first published in 2010 by Dr. Bhushan Kumar and Dr. Hemanta Kumar Kar.

THE ADVENT OF TEACHING CENTRES FOR DERMATOLOGY, VENEREOLOGY AND LEPROLOGY



Dr. K.C. Kandhari

The establishment of dermatology departments in teaching institutes provided the much-needed amplification for development of dermatology in India. History dates back to pre-independence era, with the very first department being established in 1895 at Grant Medical College, Jamshedji Jeejeebhoy Hospital, Mumbai by Major C. Fernandez, now rightfully remembered as the 'Founder of Indian Dermatology'. After a gap of more than two decades the second department was established at School of Tropical Medicine, Calcutta by Dr. Ganpati Panja and Colonel Acton.

This paved the way for scientific research and was also the first institute to start post graduate training in leprology in India. In 1926,

Department of dermatology and venereology was established at Seth Gordhandas Sunderdas Medical college and King Edward Memorial Hospital, Mumbai. Seth G.S. medical college not only had a honorary dermatologist and venereologist but also an honorary lecturer and extern. Later posts were created for resident registrar and house physician and this paved the way for dermatology education in India.

Mumbai was a forerunner as far as dermatology postgraduate education is concerned, Bombay University held its first 1-year course of diploma in dermatology and venereology examination in 1945. By 1950s a lot of medical colleges all over India had set up their own dermatology department and thus began the era of revolution in dermatology education.

The landmark in Indian dermatology history was setting up a dermatology and venereology department at All India Institute of Medical Sciences(AIIMS) in 1960, where Dr. K.C. Kandhari took the responsibility to train teachers in the speciality.

Initially dermatology and venereology were treated as separate subjects, and leprology had an insignificant existence in medical undergraduate or postgraduate teachings. But with the sincere efforts of these stalwarts, today dermatology, venereology and leprology have become an inseparable part of each other.

EMERGENCE OF AN ORGANISED SETUP

Earlier there was no organised setup for academic activities or induction of specialists. It was only by efforts of Dr. U.B. Narayana Rao and sincere support from Dr. P. Natesan that the first Indian Association of Dermatologists and Venereologists (IADV) was formed in Mumbai in 1947. IADV held its first ever all India conference in December 1947. In 1951 the association started its official journal (Indian Journal of Venereology) which later was renamed as Indian Journal of Venereal Diseases and Dermatology. From 1962-1974 IADV was affiliated to Association of Physicians(API).

Dr. U.B. Narayana Rao
Founder of IADV

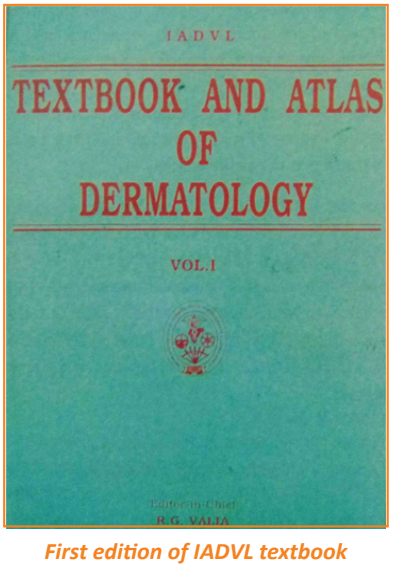
IADV had suffered its own share of setbacks when the Calcutta branch decided to part ways and formed its own Dermatological Society of India(DSI).

On 28th January, 1973 IADV and DSI unanimously agreed on the reunification and thus IADVL (Indian Association of Dermatologists, Venereologists and Leprologists) was established, with professor B. N. Banerjee being the first president and Dr. L. K. Bhutani being the first honorary general secretary. The constitution of IADVL was first printed in 1992.

In order to fill the void in postgraduate teaching of Dermatology, IADVL published its first textbook, 'IADVL textbook and Atlas of Dermatology' back in 1994 under the editorship of Dr. R. G. Valia. The project director for the same was Dr. K. Siddappa.

Since the inception of IADVL there has been no looking back, it has become the largest association of dermatologists in India with almost 11,000 members.

Presently the president of IADVL is Dr. Y.S. Marfatia and the Honorary general secretary is Dr. Shyamanta Barua. The IADVL textbook is in its fourth



First edition of IADVL textbook

edition now. IADVL is not only working hard to standardise the education among doctors but it has also brought the importance of 'Dermatology nursing' into focus. In 2011 it has released a framework for teaching skin care to nurses, since nursing does form an indispensable part of patient care in dermatology.

SOME CONTRIBUTIONS OF INDIANS TO THE WORLD OF DERMATOLOGY	
Dr. Yellapragada Subba Row	Developed methotrexate and folic acid[10]
Dr. J.S. Pasricha	Dexamethasone cyclophosphamide pulse therapy [11]
Dr. S. Premalatha	Premalatha sign (cerebriform tongue in pemphigus vegetans)[12]
Dr. Sandipan Dhar	Fountain sign in lichen planus hypertrophicus[13]
Other Indian signs in Dermatology like	Reverse namaskar sign in Ehlers-Danlos syndrome[14] Pavithran's nose sign in Exfoliative dermatitis[15] Patrick Yesudian sign in Neurofibromatosis type 1[16] etc.

PRESENT SCENARIO OF DERMATOLOGY

"The more you know about the past, the better prepared you are for the future" - Theodore Roosevelt

In medical science, the roots of dermatology penetrate deeper and wider than we can think. Once upon a time dermatology had no place with its more privileged siblings like medicine, surgery, paediatrics, cardiology etc., choosing dermatology as a career was frowned upon. It may have taken several decades but dermatology did metamorphose from a non-existent entity to a speciality of its own, a speciality with its own subspecialties like dermatopathology, dermatosurgery, pediatric dermatology, cosmetic dermatology etc., a speciality that most post graduate aspirants now wish for.This is not just serendipity, it is the fruit of sweat and labour of previous Indian dermatologists, some who became immortal in print.

Dermatology has grown leaps and bounds from the era of magico-spiritual healing to one based on scientific evidence.Few decades back dermatology was considered relatively a medical field with not much surgical work but now India is delving into dermatological surgery like never before. It has become a subject of continuous scientific research with so many newer modalities of treatment and machines coming up.

In the present era dermatology is facing its own set of hurdles with the unscrupulous use(rather abuse)of topical steroids, impure concoctions being offered in the name of ayurvedic preparations and our country's never ending obsession to become a shade lighter fuelling this fairness charade. Dermatology is a very dynamic field and has magnanimous potential to grow, there are still a lot of unanswered questions, numerous skin diseases which are incompletely understood with inadequate elucidation of their etiopathogenesis or treatment.

At the undergraduate level dermatology is still struggling to find its place, most undergraduate medical students are oblivious of the potential that dermatology as a subject holds which is probably because there is no standardised undergraduate dermatology medical curriculum. This is an issue that needs to be addressed since knowledge of dermatology, venereology and leprology forms an indispensable part of a doctor's armamentarium.

We may have moved back to the era of tablets, electric ones now instead of clay but there is no stepping back for this triple speciality (Dermatology, Venereology and Leprology) of ours, it is blooming with each passing day. None of this would have been possible without the glorious past and the sincere efforts of the doyens this field has seen. A tree without roots never bears fruits, likewise it is wise to visit the past, learn from it, and amalgamate the learnings into modern practice.

Because, sometimes in order to move forward, one needs to revisit the past.

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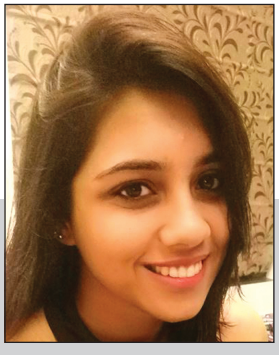

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DERMATOLOGISTS IN UNIFORM : LIFE AND CAREER IN THE ARMED FORCES

"Quartered in snow, silent to remain. When the bugle calls, they shall rise and march again."
The scroll of honour at the Siachen Base Camp

I have always looked up to the uniform or rather the men and women in uniform as the pride of our country. These resilient, courageous and selfless soldiers with grit determination lead by example, both in life and death. There is something so special about these uniformed forces that no superhero can beat a child's imagination of his father/mother fighting to keep his country safe. Another noble profession with service to mankind is that of being a doctor. Empathy, dedication and healing define the very essence of being one, giving the patient inspiration to fight from within and survive. Dermatologists in uniform is a journey of a few among the chosen ones who assay the role of both a soldier and a doctor. Who wear both the uniform and the stethoscope, who protect us and our protectors and give us lessons both in life and dermatology; taking you through their inspiring journey and presenting to our readers "DERMATOLOGISTS IN UNIFORM: LIFE AND CAREER IN THE ARMED FORCES".

- Dr. Saloni Katoch

DR. (MAJOR GENERAL) A.K. JAISWAL

My first interaction with the dignitary who I am going to interview today was when I called sir up two weeks ago and the first thing I felt was as to how humble and down to earth sir is despite the altitude of his achievements. That conversation with sir, made me realize, what it really is to be a dermatologist in uniform. One of the most well-known academicians, a successful researcher and a dedicated doctor who not only serves his patients but also his motherland, presenting to you the hero himself, Dr. (Major General) Ashok Kumar Jaiswal.

Sir has served as the Addl. Director General Armed Forces Medical Services and as Director, AFMC- Pune hospital. He has also been the Vice President & Joint Secretary of IADVL as well as President andVice President of IASSTD & AIDS.

Sir has been awarded with 3 prestigious national awards: Legendary Dermatologist award, Best Teacher award and Lifetime Achievement award by IADVL. He has also delivered six prestigious Orations at various national conferences.

Sir : Nice meeting you Preethi!!! Let's Begin.

PN : Sir, was joining the army as a doctor your dream? Or was it by chance?

Sir : Actually, you may call it both by choice and by chance.Though I wanted to study from a civil medical college, my father being from the uniformed forces (IG Police) wanted me to study from Armed Force Medical College, Pune. It was his desire to see me in uniform. I had to join AFMC as I was a little scared of my father. Now,I feel whatever decision our parents take, ultimately it proves well. I had a very fruitful journey in the army, no doubt.

PN : Any inspirations in your life for joining the army sir?

Sir : Of course, my father. You will be surprised to know that five generations of ours have been in the forces. My great grandfather was SP police at Hyderabad during Nizam time. You'll find his photograph in the famous Salar Jung Museum at Hyderabad. My grandfather was inspector in railway police. My father was IG police. I, myself as Major General in the army and my son is also in uniform – Captain (equivalent to Colonel in the Army) in the Indian Navy.

PN : Sir, how is life of a resident dermatologist in an army hospital? Is physical fitness a part of the curriculum?

Sir : Definitely! Physical fitness is a part of the curriculum, because at times you have to go to the field areas as well. Take in my case only, within seven days of joining the Indian army I was inducted into that famous 1971 Bangladesh war and had to walk for days together as a part of combat operation.So, one has to be physically fit. Don't you find that I am fit even now (chuckles).

PN : How is life different for doctors in the armed forces as compared to the civil doctors?

Sir : Not much of a difference as far as medical profession is concerned. However, in the armed forces the doctors are a little more disciplined and dedicated to their job. Normally I come to my department at 8:30 am, half an hour before the

reporting time. Though being an HOD, I can come a little late also, but punctuality and value for time is in our blood. Moreover, whatever job is given to us, we make sure it is done ON TIME, the same I am trying to inculcate in my students as well. By the way my wife is a civil doctor (chuckles).

PN : Sir, is there any difference in exposure to dermatological cases in the army hospitals versus civil hospitals?

Sir : Usually, the cases are almost similar when it comes to infections, as the infection does not prioritize whether the person is from the army or not. Yes, we don't have much of dermatological conditions due to malnutrition orbad hygiene as army personnel usually maintain their physical fitness and good hygiene. In the armed forces occupational skin disorders like corns and fungal infection of feet are more commonly seen due to wearing of closed footwear for long durations. Besides,jawans are more prone to dermatoses related to the region where they are posted e.g. cold injuries in high altitude areas; heat related skin disorders in Rajasthan; water related disorders among navy personnel and so on.

PN : Any memorable incidents from your training period or any of your postings?

Sir : All my postings had some memorable incidents. Wherever I was posted, I enjoyed every bit of my tenure. But I must tell you something about my marriage. I was posted in Ladakh, at an altitude of 18000 feet when my marriage was fixed to be on 27th May. The only way of coming out of that area to the plains was by air. The flight services used to be often interrupted due to bad weather. I was supposed to reach home for my marriage by 23rd May but till the last moment I was stuck due to bad weather. The magnitude of tension I faced during that period only I would know as there was no

alternative route to reach my place in time. However, God listened to my prayers and the weather cleared on 25th May and I could reach home just in the nick of time and eventually got married to the lady who is beside me over here (winks).

Another memorable incident was my participation in the 1971 war. I am still one of the proud surviving soldiers who fought that historical war which gave birth to a new country, Bangladesh. (PN: Sir, you were there? (swelling with pride)) Yes, I was there for almost two months.

PN : Dermatology has urgencies but not many emergencies. Is it the same when you are posted in the field areas where the treatment required can vary from the area of your specialty?

Sir : Oh! Yes, The field you are posted in, be it Leh-Ladakh, Rajasthan , West Bengal or Assam, all have regional problems. Before you become a specialist, you are a medical officer and you have to see all types of cases, especially if you are posted in the periphery. All military hospitals do not have all specialties. Small hospitals will only have a medical and a surgical specialist, and no dermatologist. So, a physician has to see even the dermatological conditions. But, we have a good transport system, and can transfer the patients to the nearest military hospitals where a concerned specialist is available. Even as a specialist, till Lt. Colonel, I was given night duties and used to handle all types of patients during my duty hours.

PN : What day to day challenges does one face as a dermatologist in the army hospital?

Sir : Dermatological conditions are same as what we see in the civilians,the only difference is that at times we have to manage the patient psychologically especially those who are posted in field areas away from their families. We have to make them feel comfortable- "Don't worry, your family may not be here but we are here to take care of you." This, you may call as one of the challenging factors while dealing with patients from the defence forces.

PN : How does one join the Armed forces as a doctor after their 12th or MBBS?

Sir : After 12th, one can compete for the Armed Forces Medical College Pune,by writing its exam. In this way one can join the army from the very beginning itself.

Doctors who have completed MBBS from civil can also join the Army Medical Corps after passing examinations.Initially, they will get enrolled into Short Service Commission (for 5 years) and later they can be given permanent commission if found fit.

PN : Sir, there are a lot of myths about the bonds that have to be served after studying in the army hospitals. I have also heard that one is posted in the field areas for the first 2 years and after that posts pertaining to our specialty are given? Is this true? I had an option of doing my post-graduation from the army hospital and these were the reasons I opted out.

Sir : That means you are not loyal to the country (smiles) (Me: No sir, I am the only child, so my parents are really worried) I will interrupt you here, why were they worried? Probably thinking thatyou will die at the border right? (Me: Something like that sir)

Currently I feel that the most protected person in our country, is the one from the armed forces. So, saying that once you join the army, you will be hit by a "goli'', is not fair. There is a saying, "Every bullet has a name on it". Not every person who joins the army is at the risk of losing his life. It is always better that you work in the field and then earn your specialty. In this way one is exposed to other areas of

medicine as well. One has to be mentally and physically tough to be on the army side and not just a darling child (smiles).

PN : Doctors like to settle and build their practice, what impact does moving every 3-4 years have on your personal and professional lives?

Sir : For some it may be disturbing, but for me the frequent postings every 2-3 years were more of a blessing in disguise. We had complete Bharat darshan free of cost at government expense. Professionally also wherever I was posted I took advantage of the same in doing some study in that area. At times I was posted to far remote areas where no civil dermatologist services were available; as a result, I used to be the pioneer in carrying out studies in that area which got published in international journals straight away. Moreover, the frequent change exposes and allows one to see new places, meet new people and thereby come to know about their culture and lifestyle. In fact, I have become so used to the frequent moves that even now in the civil I get bored very soon at one place and prefer a change every three years. I was in Vydhei institute of medical sciences and after four years I left the job and joined the present college.Here also after four years I am feeling a little restless (chuckles).

PN : Sir, any interesting experience from field areas or other difficult terrains that you were posted in?

Sir : I was posted in Ladakh where the temperature outside used to be -10 to -30 degrees. Life over there is so tough that it cannot be narrated in words, one has to be there to experience it. We used to survive on frozen tin food for months together. Even letters from our home reached us very late. All this was due to interrupted air services because of frequent bad weather. The tap water would be frozen, even oranges used to become hard like cricket balls.

PN : Any particular mentor/teacher you would like to mention, who has been like a guiding star to you in your journey as an army personal? As a doctor?

Sir : My own parents were my mentors. They gave me not only good sanskars but also made me realize the importance of our great Indian culture,the value of time and the virtue of loyalty towards our motherland.My teacher Dr. S. K. Panja, is a very renowned dermatologist of international repute. Whatever I am today, and whatever awards /honors I have received is all because of his teachings. I shall ever remain grateful to my parents and my guru for making me somebody from nobody.

PN : Army, Air force or the Navy, which one would be best suited for a doctor in uniform?

Sir : It all depends.Every service has its own charm, and also its own plus and minus points. For me, Army was good because not only did it make me see the whole of our country but also elevated me to the 2nd highest rank that a doctor can reach that is Major General.

PN : How does it feel to be serving your motherland and mankind by being in two of the most noble professions,a soldier and a doctor?

Sir : (Corrects me) See, I am one of the few lucky people who has had the experience of all the three noble professions – Doctor, Teacher and Army (Me: hmm, three of them!!) I started as a doctor and then became an army officer and now at present I am a teacher – Professor and HOD of Dermatology (smiles).

PN : Sir, any words of wisdom for future generations of dermatologists?

Sir : I still feel, that the future of dermatology belongs to clinical dermatology and not much to cosmetic dermatology. This is what I keep telling my students as well.

PN : Sir a set of my favorite questions, just to know you more as a person: childhood? Parents? MBBS? PG? Hobbies? Life outside army?

Sir : Childhood : Very naughty (reminisces), Very Darpok (Scared) However, I was very sincere in carrying out any job given to me. I think that's the key point of my success in life. One has to value time - "If you don't value time, time will not value you".

Parents : Parents are of course parents yaar. Whatever you are, it is all because of their blessings. There's no doubt. You learn good sanskars from your mother and the hardships, wisdom and society robustness from your father.

There is a famous saying "That behind every successful man there is always a woman''. My wife has always been a great source of inspiration and encouragement in my life. Being an army officer's wife, she had to manage the house and my children all alone for many years when I was posted in field areas. She has sacrificed her comforts and even her medical profession at times in bringing up our children. It is mainly because of her that both my children are doing extremely well in their own field. My daughter is a dental surgeon in USA and my son is an engineer in the Indian Navy. In other words, it's not only the'fauji' men/women but also 'fauji' housewives who are inborn warriors. Hence whenever you come across a soldier's wife you must salute her.

My wife has always looked after me as her third child. Of course, we do fight very many a times (chuckles). I feel wherever there is true love there has to be some fight also. If ahusband and wife are always goody goody then there is something wrong (smiles).

MBBS : From the prestigious AFMC, Pune.

PG : Diploma from AFMC, Pune and MD from Calcutta.

Hobbies : Picturein dekhna (I enjoy watching movies). I am not very fond of reading novels. Little bit of sports I used to play during college times (cricket). Otherwise I am a very lazy person to tell you frankly. That's why I have joined dermatology (winks).

Life outside the Army : I am enjoying working in the civil side also for the past 10 years. It's an experience by itself and definitely a big challenge for an army man.

PN : Sir, last and a very important question for us residents. What are your favorite questions as an examiner?

Sir : My favorite questions in exams are mainly related to basics of dermatology. How you deal with the patient and manage him. I don't believe much in asking theoretical questions, because ultimately the patient comes to you for a proper diagnosis and management of his ailment,he is not interested in the theoretical aspect of his disease, isn't it? So, my questions are basically basic!! Like for example what is the topical therapy you will give and how, and so on.

Sir, is presently working as Professor and HOD of Department of Dermatology, Dr. B R Ambedkar Medical College & Hospital, Bangalore. The virtues of knowledge, humility and discipline are his identity. I feel lucky and grateful to have gotten this opportunity to interview such a humble dignitary.

Thank you so much sir.

Dr. Preethi B Nayak,
PG-3, KS Hegde Medical Academy,
Mangalore, Karnataka.

DR. (COLONEL) MANAS CHATTERJEE

A celebrated mentor, a loved teacher and a proud officer. Dr. (Colonel) Manas Chatterjee is presently serving as Professor and HOD, Dermatology, INHS, Asvini. It was indeed an honour for us to share this inspiring and encouraging conversation with sir. Giving us an insight into the life and career in the armed forces we present our teacher par excellence, Dr. (Colonel) Manas Chatterjee.

AD : Good afternoon Sir! Could you tell us what inspired you to join the Army?

Sir : With absolutely no Army background, the prime reason for me was to enter AFMC, Pune, one of the top medical colleges of India. I was half a centimetre short of the required height for males at AFMC but seeing my resume the president of the board disregarded that half centimetre and I joined AFMC. During my time, it was a compulsory permanent commission for males except that you could pay out before internship started. At that point of time, I had fallen in love with my batchmate and was going to get married the next year. Since she had decided to continue her short service commission, I continued in AFMC and joined the Army thereafter. It's been 26 years now.

AD : Why did you choose dermatology as a career?

Sir : I was the Medicine topper of my batch. However, when I went to take his blessings, my professor of Medicine, Dr. Kasturi, told me that the era of medicine was going down and with the same amount of effort one could achieve more in other specialities like Radiology or Dermatology. Believe me, for the first 3- 4 months, I used to regret taking up the subject. It was in the early nineties and most of us were unsure of the prospects of Dermatology at that time! However, as you can you see, things did work out fine. I'm eternally grateful to my teacher for his wise counsel.

AD : You've recently received the award for teacher par excellence. How does it feel to be a mentor?

Sir : My first love is teaching. It is always great to transfer what you know to someone else and see him/her grow better than you. I tell my students the biggest thing you can do for me is to do whatever I do and do it better than me and see them do better than you.

AD : How is life as a dermatologist in the army different from that of a civilian dermatologist?

Sir : The most important disadvantage is moving from place to place every 3-4 years, which hampers the continuity of the work. But one of the major advantages is that the system functions similarly everywhere. The staff is equally trained, the equipments and medicines are available similarly. So whatever work I'm doing at one place, I simply carry it forward. If I want to prescribe an expensive medication, say a biologic where indicated, I have the full liberty to do so. The system fully supports you and ensures that you get whatever you need, to be able to deliver what you want to deliver. Organisationally, material things are taken care of. So, even if you move from place to place you continue doing whatever you're doing. In the Army, you are always professionally able to fulfil what you'd like to do.

AD : Do you feel any difference in how the patients at Armed Forces hospitals look up to their doctors?

Sir : One major benefit is that, your clientele at Armed Forces hospital knows you're not going to benefit yourself financially by writing any particular medicine or investigations. Elements of transparency are there, which helps in building the trust. But, make no mistake, scrutiny is much more today than what it was say twenty years back. We need to accept the fact that we will be always under scrutiny. Hence, total transparency in our interactions with patients is the need of the hour.

AD : Would you like to share with us any memorable incidents from your residency days?

Sir : Let me tell you about my MD final exam. I keep telling my students the biggest disservice one can do when you're appearing for your exam is to tell you the cases. During my final exam,the patients were either from AFMC or BJMC. All the cases were known to us including history and diagnosis. One of my short cases was a case of secondary syphilis from BJMC. I knew the patient,the diagnosis and I had read all about secondary syphilis. When asked how long I'd take to examine the case, I said I'd take only 5 minutes and within 5 minutes, I was ready. I answered all the questions perfectly.Then the external asked me "But you didn't mention peripheral lymph nodes!" That was the time I realised that in the overconfidence and bravado of having known the case, I hadn't recorded everything in order. It was even mentioned during my grand viva that this candidate did not mention peripheral lymphadenopathy during his case discussion!

Sir : The exam which I enjoyed the most was my DNB exam, held at Gandhi Medical College, Hyderabad. I went to the hospital at night to see what all cases were there. The entire ward was empty and the sister informed me that Dr. Rajababu had asked to move all the cases away as the candidates would come to ask about the cases. The next day, we had the spotters and long cases and I breezed through them just because I knew nothing about the cases. My suggestion to all youngsters would be not to know any cases beforehand, even if the exam is in your own hospital. Your mind can never be open if you know the diagnosis.

AD : For all the young dermatologists out there, could you kindly highlight the scopes for a young dermatologist in the Armed Forces?

Sir : Many people want to serve the Army for short stints to get a feel of the worklife in the Army without having to commit for a long term employment. One can join either as a specialist or as a medical officer. The postings are for 5-7 years. If one likes the posting, one can apply for a permanent commission, provided you are still within the age limit. Things are even better if one joins as a medical officer, as he/she will have lots of opportunities for doing a postgraduate specialisation (both DNB and MD).

AD : Army, Air Force or Navy, which one would be best suited for a doctor in the Armed forces?

Sir : Both the Air Force and Navy have fewer hospitals than the Army so if you don't wish to travel a lot, you can choose these two. The workload is far more in the Army, and the hospitals are somewhat larger. The number of hospitals is also more. You are seeing more number of patientsin the Army, but you also have to move a lot. So it's kind of your own decision. Sometimes ofcourse, the organization decides where you will be posted.

AD : How does it feel to be serving your motherland and mankind by being both a soldier and a doctor?

Sir : It is a privilege to serve the country. Not everybody gets the opportunity. We are recognized wherever we go as people of the Armed Forces and I think that is a matter of great pride.

AD : What would be your advice for the future generation of dermatologists?

Sir : My message to young residents would be try to be the best in whatever you are doing. Do not do something if you feel your heart and mind are not in it. Being a good human being is much more important than being an excellent dermatologist with a poor personal character.

Dr. Adrija Datta,
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DR. (LT COLONEL) C. BRIJESH

A serving officer in the Army Medical Corps, an excellent academician, an inspiration and mentor to many. It was our privilege to converse with sir who adorned in the green uniform assays the dual role of serving our motherland and serving mankind at large. Presenting to our young readers a motivational conversation with Dr. (Lt Colonel) C Brijesh enlightening us about the dedication, discipline and resilience of doctors in the Armed forces.

IN : What was your inspiration for joining the army sir?

Sir : One of my prime inspirations in joining the armed forces was the opportunity to do graduation from one of the most prestigious medical institutions Armed Forces Medical College, Pune. Joining one of the big 4, AFMC, AIIMS,CMC, or JIPMER was my ambition. I have always been fond of travelling and seeing new places and interacting with people. That was my second motivation. The opportunity to serve the country as both an officer and a doctor, which is essentially two well respected professions in tandem was another major inspiration to join Armed Forces. Whatever trepidation I had in joining the forces was dispelled by a family friend, who was a dental officer who had retired after 20 years in services. His glowing assessment really lifted any grains of doubt I had.

IN : How is life different for doctors in the armed forces as compared to the civilian doctors?

Sir : The advantages can be summed up by two phrases, inherent self-discipline inculcated by a regimented life style in uniform and overwhelming confidence in interactions with others stemming from facing situational exigencies, which the organisation presents to you in a periodical fashion. The other facets which are different are periodic transferable nature of the profession which is counterbalanced by job security. The transfers actually present an opportunity to pursue one's desire to see new places and face new situations.

IN : What are your memorable incidents from training period or any of your postings?

Ans : I was the Resident Medical Officer (RMO) of a field unit that was deployed in high intensity counter-insurgency operations post-Kargil war. As military doctors, we are liable to be posted to one or two field areas prior to your post-graduation and this tenure is mandatory. We used to indulge in anti-insurgent treks on mountains, long range patrols and anti - insurgency encounters in which the medical doctor accompanies the Commanding Officer of the Unit. This tenure helped me understand the hardships faced by our soldiers in field and deal with them in a sympathetic manner to provide them withsome relief from their tough service requirements. After post- graduation in dermatology, my service has always been in a hospital environment. I still treasure the camaraderie with my field unit officers and soldiers during my RMO tenure. One of my liveliest memories was going on a 12-hour trek to a high-altitude post called Gaghrial somewhere high in the PirPanjal Mountains in a spot akin to heaven, with melting thin veneer of snow all around and playing a cricket match at that altitude with make shift bat and ball. Of course, taking a single run at that altitude makes you out of breath and the wonderful camp fires we would have at night made that an event to remember.

IN : Sir, what is the scope for young dermatologists in the Armed forces?

Sir : After doing post-graduation in dermatology, the scope is just like a normal consultant dermatologist. Initially you work as a graded specialist after passing post-graduation in a speciality. Then we are upgraded to Classified specialist and later as Senior Advisor. As far as service promotions go, all permanent commissioned doctors/ specialists are guaranteed promotion till the rank of Lt Col. Above this rank, selection boards approve career progression. A huge opportunity that the specialist gets in Armed Forces is the diversity of clinical material during his or her various postings and a holistic understanding of disease trends in various segments of the country ranging from

high altitude dermatology to submarine and diver associated diseases.

IN : What challenges do you face in day to day life as a dermatologist in the army?

Sir : I would say frequent transferability is both a plus and a downside. Long term follow up of chronic disorders may not be possible for a service dermatologist in a single centre, as tenures are usually capped at 3-5 years. The protection, security and respect afforded by the service occupational milieu easily counter this perceived deficiency. It is also pertinent to mention that number of ladies working as service dermatologists are on the rise year on year. So, gender is no longer a limiting factor for a service dermatologist.

IN : How does one join the armed forces as a doctor after their 12th or MBBS?

Sir : There are three ways of entering armed forces.

- One is by passing the rigorous AFMC entrance examination after 12th standard. Then you join army as Lieutenant for internship. After one-year internship, you are promoted to the rank of Captain or its equivalent in the Navy or Air Force.
- The second route of entry is after you finish your MBBS from a civil institution by interview (notification of which appears frequently in national newspapers 3-4 times a year) and then enter the forces directly as a Captain or equivalent in the role of Short Service Commission (SSC – 5 years) Medical Officer and after doing mandatory field service you can apply for Permanent Commission (PC) and in due course of time write the Armed Forces PG examination which is part of NEET-PG programme.
- The third route is after post-graduation in dermatology in a civil institution by the process of vacancy based interviews which are also duly notified in national newspapers. Here you join directly as a specialist and then undergo a period of observation under a Senior Advisor before being assigned postings as a specialist. Here ante-date seniority is granted for individuals joining after completion of civil speciality.

IN : Sir, doctors like to settle and build their practice, what impact does moving every 3-4 years have on your personal and professional lives?

Sir : Doctors do like to settle and build their practice owing to the pecuniary inducements in civil street. But the learning curve and monetary gains curve is slow to start with, but once you establish, the economic potential grows exponentially. In service, the emoluments package is very good initially and hence the steep initial struggle may be missing. Periodic pay revisions maintain the pay package comfortable. Personally, as a specialist you work in a hospital environment only and hence the range and reach of clinical material might be more variegate than a clinic based practice. So, in that, we have an advantage as we always handle multi-speciality systemic cases in routine practice. We have a lot of room for in-patient treatment in dermatology wards with dedicated Specialised Treatment Assistants (STA), who help us manage cases like TEN, Pemphigus, etc within the confines of the skin ward. This ensures tremendous exposure to tough acute cases. The disruption in long term follow up to which I have already alluded to, vide supra, may be a small detriment. After specialisation, the separation from family is limited to short periods of time as almost all dermatology billets are in family stations. And frequent transfers do take a toll on children's' education, but they become smarter and develop good personality skills by exposure to varied situations and people whom they interact with during their parental transfers.

IN : What are your experiences from field areas or other difficult terrains that you were posted in?

Sir : I have mentioned some aspects of it earlier. The three things that you gain from tenures in tough terrains are adaptability, resilience and communication and linguistic skills, all of which stand you in good stead at some point in your professional career.

IN : Army, Airforce or the Navy, which one would be best suited for a doctor in the armed forces?

Sir : Army is by far the largest of the three services. All services have their pros and cons. If you want to remain confined to big cities with all appointed facilities, Air Force and Navy might have a slight edge there. But if you want to have a real taste of regimental ethos, and what Armed Forces are all about, there is no substitute to the Army. The green uniform by virtue of its size and reach, definitely offers the best of armed forces, marginally more so than the blue and white attires.

IN : How does it feel to be serving your motherland and mankind by being both a soldier and a doctor?

Sir : This certainly was one of the biggest motivations for me joining the services. Two most respected professions, rolled into one and you metamorphose into either as the situation demands. It is definitely a USP of what I do.

IN : Where do you stand in the debate regarding cosmetic vs medical dermatology?

Sir : We in Armed Forces are doing all cosmetic and dermato - surgical procedures including chemical peels, aesthetic procedures, etc. In my centre, I have panoply of highest quality brands of chemical peels and other aesthetic preparations. But the thrill that I derive from unravelling a complicated clinical diagnosis through astute follow up and frequent course corrections guided by patient presentation ranks far higher than any cosmetic highs offered by

aesthetic practice. The cake and cream components in my opinion are both clinical dermatology, and aesthetic dermatology, hair transplant; dermatosurgery must be considered merely icings on the cake.

IN : Where do you stand in the debate regarding generics v/s brands sir?

Sir : I am brand conscious but not brand specific. Suppose we have to prescribe Itraconazole for extensive dermatophytes, there are certain set of companies which follow basic checks and balances as far as production quality is concerned. We are aware of the identity of these firms. I stick to prescribing products of such firms only. Having said that one of the biggest lacunae in cosmetic products is the rather unjustified differential pricing of patently ineffective products (stem cells, mesotherapy products, hair sera, etc) which only act as glorified placebos to create an aura of marketing exclusivity. After all, we are doctors first and therapeutic efficacy must be our first guide towards molecule and brand selection.

IN : Your do's and don'ts for the future generations of dermatologists.

Sir : The crème de la crème of the rank list in NEET PG are taking dermatology both in services and civil practice and I am immensely proud of the emancipated status that our speciality enjoys in present times.

CERTAIN DO's

1. Skin is systemic. Envision skin as a component of the body in its entirety.
2. Always approach the case with a broad based horizontal differential diagnostic view as opposed to the longitudinal Pathogenesis -> pathology -> morphology -> investigation -> treatment algorithm as taught in textbooks.
3. Always take your journal club topic seriously. Take pride in what you present, whatever be the forum.
4. Remembering that clinical dermatology is the basis of the speciality will enhance respect of our peers in other specialities.

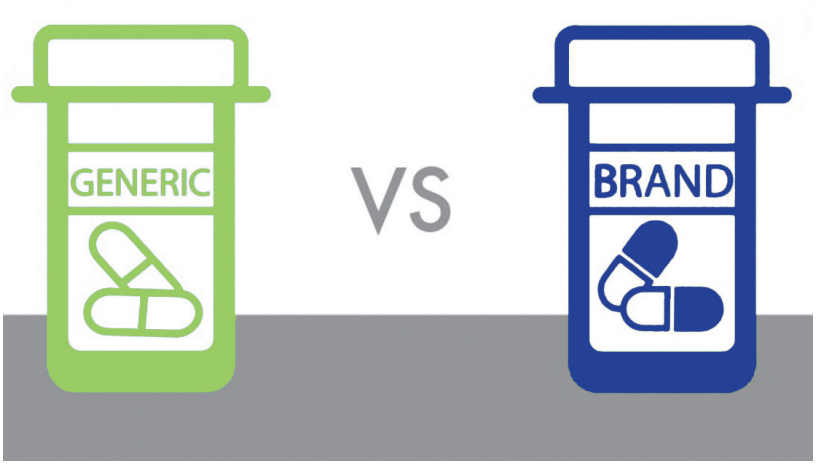
Thanks, Residream, for the opportunity of sharing my personal views and thoughts.

Dr. Isha Narang,
Senior Resident,
Maulana Azad Medical College, Delhi.

THE ARENA
GENERICS V/S BRANDS
IMPACT ON DERMATOLOGY

FOR GENERICS

Dr. Adrija Datta,
PG- 2, Medical College & Hospital, West Bengal.



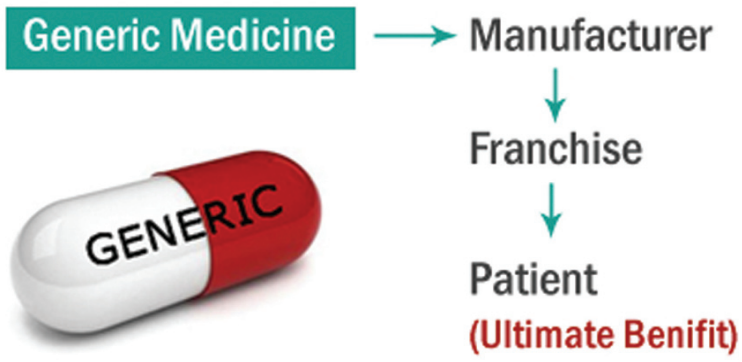
In the current scenario, generics in dermatology could refer to use of both generic drugs as well as use of generic prescription.

Generic drugs are usually available in the market after the expiry of the patent for the branded drug discovered, marketed and promoted by a company.

Cost of medication : In a developing country like India, cost of medications is an important limiting factor in availing treatment and maintaining compliance. Generic drugs can address this issue with much lower cost of production. Manufacturing a branded medicine involves advertisement, marketing and promotion of the brand, which takes the cost a notch higher than generic medicines. This naturally reflects on the selling price and raises the expenditure for branded medicines.

A cheaper pocket friendly option is always welcome to the Indian patients as well as doctors as it can ensure a better patient compliance with less economic burden. This is of particular significance in reduction of out-of-pocket expenditure for medications in chronic diseases. Since a number of dermatological diseases tend to run a prolonged course, use of generics should have a positive impact in dermatology.

Availability : A medicine shop may not keep stocks of all brands of a particular drug. It's not uncommon for the patient/patient party to run from one shop to the other in search of a particular brand of medicine the doctor has prescribed. A generic prescription is much likely to cause less harassment to the patient as well as the prescribing doctor. Even if the particular brand is unavailable, the patient will receive some medicine. In many households of India,



seeking consultation for a skin condition is a waste of time as well as money. When such a patient finally turns up for a visit to the doctor, unavailability of certain brands prescribed may revert back the patient to his homemade remedies or some alternative methods which could have disastrous consequences.

Ease of communication : In medical school curriculum, we are taught about the pharmacokinetics, pharma - codynamics, indications, adverse effects and contraindications of different drugs according to their generic composition. Brands are a much later incorporation in our knowledge.

Practising dermatologists may not be aware of all the brands available in the market. When a patient is referred from a fellow physician or is already on some medication for similar or other medical conditions, a prescription of generics poses as an instant recognition of our basic medical school training. A generic prescription serves as a universal mode of communication amongst doctors.

By definition, a generic drug has the same active ingredients as a brand name drug already available in the market and is equivalent to its branded counterpart in its potency, efficacy, bioavailability, safety and indications. In the United States of America, the US-FDA sets a vigilant watch on the quality of both generic and branded drugs to maintain this equivalence.

Transparency : Doing away with brands and making way for generics ensures a certain level of transparency in the doctor-patient relationship. No question of favouritism or promotion of any pharmaceutical company can crop up with a generic prescription.

Efficacy : Questions have often been raised regarding the efficacy and safety of generics. By definition, a generic drug has the same active ingredients as a brand name drug already available in the market and is equivalent to its branded counterpart in its potency, efficacy, bioavailability, safety and indications. In the United States of America, the US-FDA sets a vigilant watch on the quality of both generic and branded drugs to maintain this equivalence. In the absence of such regulatory authorities, qualities of both branded and generic medications can deteriorate. What's the scientific proof that a branded drug is indeed superior to its generic counterpart? A landmark systematic review published as early as 2008 in JAMA clearly stated that "evidence does not support the notion that brand-name drugs used in cardiovascular disease are superior to generic drugs." We need rational well-designed and well-documented studies to comment on any difference in the efficacies of branded and generic medications.Stringent quality control and periodic monitoring are invaluable in maintaining uniform standard.

All said and done, India is not home to generic medication, which seems to be the need of the hour. Cheaper brands in the name of 'branded generics' is being made available in the Fair Price Medical Shops or Jan Aushadhi stores across India.The concept of 'branded generic' is an oxymoron. The differences in branded generics and standard brands is the topic of another debate altogether.

FOR BRANDS

Dr. Isha Narang,
Senior Resident, Maulana Azad Medical College, Delhi.

What's in the name? This debate of generics vs. brands becomes even more relevant when we see our esteemed actors Mr. Amir Khan promoting generic drugs with full patriotism and Mr. Amitabh Bachchan promoting a famous pharmaceutical brand M*****d. Everything Indian is done in a little different way against the rest of the world. Hence, it's not simple right? But what's the simplest; a doctor writes a medicine and you buy it.

The power of a doctor's prescription is highly underrated. A doctor's prescription not only includes the treatment of the diagnosis made but the 'best treatment' which is a summation of his experience and knowledge.

Brands do offer better quality and simplicity of uniformity throughout a region and thus ensuring reproducibility. Brand names are better remembered and identified by both. It kind of ensures the clinician that his treatment will be administered the way he wants with the efficacy,in the brand he trusts. For the patient, he can be assured about the best possible intention for him. In a country like India where there's no regulation on bioequivalence of generic products, unlike US-FDA, the whole concept of generics is questionable in this scenario.Particularly in dermatological preparations vehicles are more important. Even if active ingredients may be the same but inactive ingredients may be different. In dermatological preparations, efficacy to a great extent depends on the vehicle which improves it by enhancing drug delivery and reducing side effects eg. microspheres and nanospheres.

Popular brands also have a reputation to hold. For this the product does not change in quality over a period of time, even though fluctuations occur in a lot of other external parameters that may affect its quality like taxation policy, raw material costs etc.Branded drugs are indispensable in cases where the drugs have narrow therapeutic index and fixed cumulative doses. In dermatology for drugs like oral retinoids and immunosuppressants, trusted brands are preferred for these reasons.

To answer the question about doctors getting cuts and writing medicines for self-interest;I must say that the rule that all physicians unanimously follow is 'do no harm'. Best interests of a patient are always of utmost important to a doctor and so is the patient's affordability. Physicians are always sensitized and aware as to what a patient can afford which benefits him the most. Questioning this aspect or these intentions is demeaning them and is valid for only a miniscule percentage of physicians. Also, every physician and inarguably a dermatologist wants to build a long-term relationship with his or her patients and this aspect is especially taken care of.

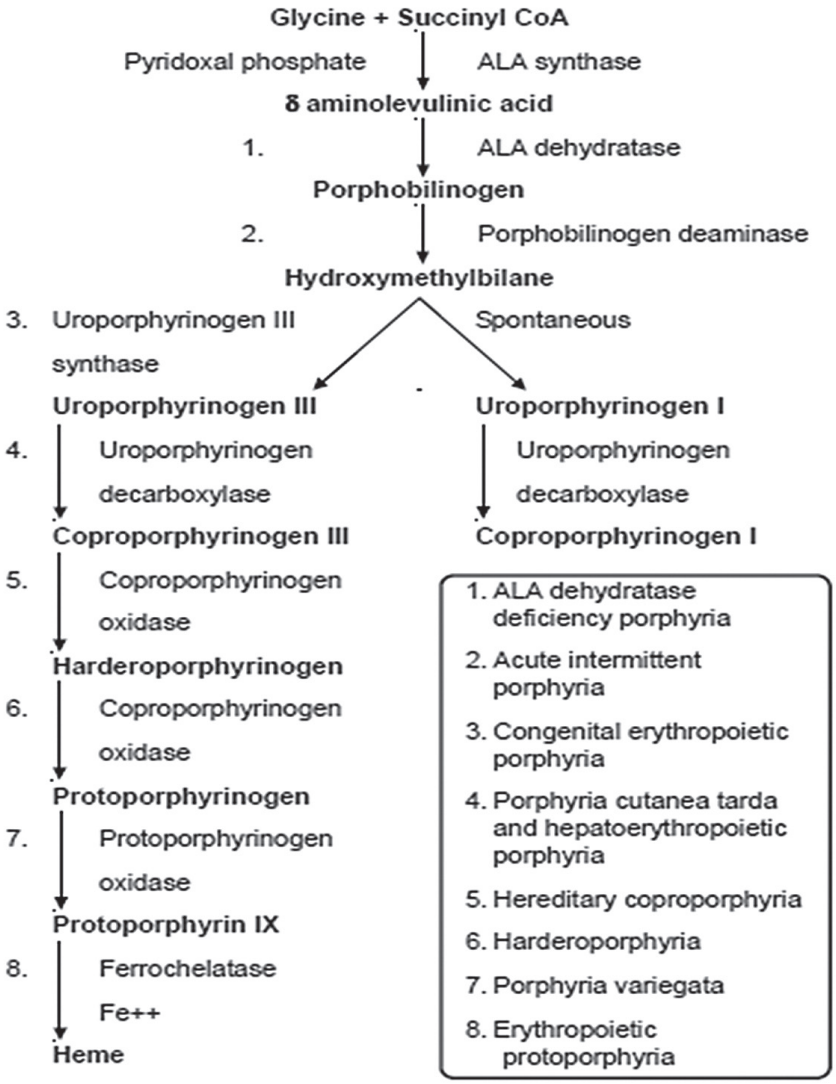
Till the time brand selection is primarily driven by the better efficacy, it is the best form of treatment a patient can expect. Having said this, the onus lies on the physicians to keep this intention as prime and use their best acumen to judge brands and their constituents against all the marketing and conviction; 'to read the book and not just the cover.'

DERMATOLOGY NOTES - I

PORPHYRIA

Porphyrias are a group of inherited and acquired disorders resulting from enzyme deficiency in the metabolic pathway of heme characterized by excessive accumulation of porphyrins or precursor porphyrinogens.

HEME SYNTHESIS PATHWAY AND CLASSIFICATION OF PORPHYRIA :



CLASSIFICATION OF PORPHYRIAS

Acute Porphyrias
- Acute Intermittent Porphyria
- ALA Dehydratase deficiency porphyria(Plumboporphyria)

Cutaneous Porphyrias
- Porphyria Cutanea Tarda
- Congenital Erythropoeitic Porphyria(Gunthers disease)
- Erythropoeitic protoporphyria
- Eryhtropoeitic coproporphyria
- Hepatoeryhtropoeitic Porphyria

Mixed Porphyrias
- Variegate Prophyria
- Hereditary Coproporphyria(Harderoporphyria)

Type of porphyria	Inheritance	Mutation in gene	Biochemical abnormality	Clinical features	HPE	Laboratory findings
CONGENITAL ERYTHROPOEITIC PORPHYRIA	AR	Uroporphyrinogen III synthetase (UROS) gene	Deficiency of uroporphyrinogen III synthetase→ overproduction of uroporphyrin I isomers→coproporphyrinogen I These hydrophilic compounds accumulate in : • Bone marrow • Erythrocytes • Plasma • Bones • Teeth	In-utero: severe hemolytic anemia→ nonimmune hydrops Infants: neonatal jaundice ✓ Burgundy red discoloration of urine and red staining of diapers ✓ Mutilating photosensitivity of skin(due to uroporphyrin-most photodynamic):itching ,erythema followed by painful vesiculobullous eruption→crusts and pigmented scars→ mutilation ✓ Hypertrichosis: coarse hair on face and lanugo hair on limbs ✓ Erythrodontia and pigmentaion of bone(fluoresce under Wood's Lamp) ✓ Ocular: photophobia, ocular ulceration, cataract, ectropion, keratoconjunctivitis,corneal scarring ✓ Systemic: Hepatosplenomegaly	Subepidermal blister with mild inflammation; thickened collagen bundles in scar	**Increased uroporphyrin I and coproporphyrin I** in urine, stool and red cells(show fluorescence). **Prenatal diagnosis:** measurement of uroporphyrin I in amniotic fluid

ERYTHROPOEITIC PORPHYRIA	AD	Gene for Human **Ferrochelatase**	Decreased ferrochelatase activity(10-25% of normal)→ increased protoporphyrin IX	Onset usually before 6 years ✓ Photosensitivity: intense pricking, itching, burning sensation within 15-30 minutes of exposure associated with pain. ✓ Involves face,dorsum of hands ✓ Lesions may be erythematous, edematous, petechial,urticarial or eczematous ✓ Deep wrinkles: nasolabial fold,lower eyelids and perioral(SPARING PERIOCULAR AND SUBNASAL) ✓ Chronic changes in skin: thickened,waxy scarring with appearance of premature aged skin ✓ Systemic: ○ Cholecystitis and cholelithiasis ○ Acute hepatic failure or severe cirrhosis (rarely) ✓ Mild hypochromic microcytic anemia	Marked dermal eosinophilic homogenization. PAS positive material accumulation in blood vessel wall	✓ Immunofluorescence: deposition of IgG ✓ RBCs and feces: increased protoporphyrins and coproporphyrins ✓ Coral red fluorescence in RBCs. ✓ Vitamin D: significantly reduced.
PORPHYRIA CUTANEA TARDA ✓ Most common porphyria ✓ Precipitating factors: alcohol,estrogens, griseofulvin, hydantoin, hepatic siderosis ✓ Associated with Hepatitis C, HIV infection, Hereditary hemochromatosis,diabetes mellitus, chronic renal failure on dialysis ✓ Type IV(Toxic PCT): induced by toxic chemicals like hexachlorobenzene,chlorinated hydrocarbons	Types: - type I: sporadic type II :AD with weak penetrance		Reduced Uroporphyrinogen Decarboxylase : only in liver(Type I) and all tissues(Type II)	✓ Cutaneous lesions: over face and sunexposed parts ✓ Skin fragility, pigmentation,hypertrichosis(MONKEY LIKE FACE) and bullous lesions(hard liquor with solar exposure) due to photosensitivity ✓ Healing with scarring, hypo/hyper pigmentation, milia ✓ Pseudoscleroderma and dystrophic calcification ✓ Ocular Manifestations: conjunctivitis, phtophobia and excessive tearing ✓ Systemic: Diarrhoea or constipation, insomnia, anorexia ✓ BANTU PORPHYRIA:due to adulterated drinks:extensive erosions with secondary infection, subungual, fingertip or palmar bullae andgross secondary scleroderma ✓ Differential diagnosis: Epidermolysis bullosa,hydroavacciniforme, hydroaaestivale, drug induced photosensitivity, PMLE, scleroderma	Subepidermal blister with minimal inflammatory infiltrate in dermis Deposition of PAS positive material in papillary capillaries	**Electron microscopy**: Duplication of Dermo-epidermal basement membrane and reduction in number of collagen fibres **DIF:** deposition of IgG,C3,IgM in and around papillary vessel wall and dermoepidermal junction. **Urine:** dark brown in colour; red fluorescence under Wood's lamp; elevated uroporphyrin and coproporphyrins in urine and feces **Hepatic**: Impaired Liver function tests with elevated serum transaminases and liver biopsy showing infiltration, inflammation, necrosis and portal fibrosis Erythrocyte porphyrin profile normal
ACUTE INTERMITTENT PORPHYRIA ✓ Most common and	AD	PBG deaminase gene on chromosome 11	Deficiency of enzyme porphobilinogen deaminase	✓ Persistent or colicky abdominal pain with vomiting or constipation(GUNTHER TRIAD)		✓ **Acute attack:** urine becomes dark on standing due to PBG polymerizing to uroporphyrin and a

severe acute porphyria ✓ Attacks are common amongst females:20-40 years and males: 30-50 years ✓ Attacks precipitated by severe fasting, dieting, emotional or physical exhaustion,intermittent acute illness, drugs like barbiturates, sulfonamides, griseofulvin, chloroquine, anticonvulsants, antidepressants, OCP, pregnancy, menstrual cycle				✓ Peripheral neuropathy (localized pain over one limb to complete paralysis) ✓ Features of autonomic neuropathy like tachycardia, hypertension, postural hypotension, sweating, urinary incontinence or retention ✓ Cutaneous features: rarely, hyperpigmentation		brownish red pigment porphobilin. ✓ Bed side test: addition of Ehlrich's reagent(p-dimethyl amino benzaldehyde) to urine gives a red compound not extractable by chloroform ✓ Modified Watson-Schwartz test ✓ Latent cases: estimation of erythrocyte PBG-D activity
VARIEGATE	AD		Decreased	✓ Photocutaneous,		✓ Elevated urinary PBG
PORPHYRIA Hereditary form of hepatic porphyria Precipitated by intercurrent illnesses or infections, drugs such as barbiturates, analgesics,sedatives, tranquilizers, sulfonamides, griseofulvin, estrogen.			protporphyrin oxidase activity Decreased ferrochelatase activity	abdominal and neural manifestations ✓ Fragile skin which abrades easily with trauma and blisters in sunlight; heals with scarring ✓ Onset before infancy : severe photosensitivity with ocular features like nystagmus, seizures and mental retardation ✓ Acute attacks occur in women, usually after puberty		and ALA- develops port wine discoloration on exposure to sunlight(during attack) ✓ Elevated stool protoporphyrins and oproporphyrins(during and between the attacks) ✓ Uroporhyrin:coproporphyrin ratio: Urinary <1 ; fecal: >1.5:1
PLUMBOPORPHYRIA	AR		Deficiency of ALA dehydratase or porphobilinogen synthase	Clinical manifestations after moderate exposure to lead		
HEREDITARY COPROPORPHYRIA	AD		Reduced coproporphyrinogen oxidase activity→ excess coproporphyrin in urine and feces and elevated ALA synthase	✓ Predominant hematological features: HARDEROPORPHYRIA ✓ Presenting features: abdominal pain; photosensitive bullous eruption involving face, hands and other sun-exposed parts ✓ Rarely, respiratory paralysis can occur.		
HEPATOERYTHRO	Rare AR		Decreased erythrocyte	Dark urine, marked		Increased urinary and

POEITIC PORPHYRIA			uroporphyrinogen decarboxylase activity→increased protoporphyrin concentration	photosensitivity, blistering, hyperpigmentation, hypertrichosis and scleroderma like changes		fecal coproporphyrins

MANAGEMENT

SCREENING TEST :

1. 10 drops of glacial acetic acid+ 1ml amyl alcohol added to 4 ml of urine

↓

Shake the mixture and examine under Wood's lamp for pink/red fluorescence in upper amyl alcohol layer

↓

Unexplained negative test:to confirm,add 0.05% iodine (porphyrinogens -> porphyrins)

Test results :

- Positive test: strong pink/red fluorescence
- False positive: lead poisoning, liver disease, chemical intoxication with carbon tetrachloride, infection, certain anemia

2. Total erythrocyte porphyrins measured by :

- Rapid flurometric micro method
- Spectrofluorometry
- Gas/thin layer chromatography or spectrophotometer

GENERAL MEASURES :

- Avoidance of precipitating factors
- Screening of families and genetic counseling in latent carriers

MANAGEMENT OF ACUTE ATTACKS :

- Photoprotection through proper clothing, broad spectrum sunscreens(containing benzophenones, avobenzone or tinosorb), physical sunscreen (containing titanium dioxide or zinc oxide)
- **Treatment of photosensitivity :**
  - Beta carotene: 60-180 mg/day : acts by quenching the excited oxygen radicals
  - Carotenodermia develops over 3-6 weeks
  - Preparations without canthaxanthin are recommended, since it can cause ocular toxicity in the form of retinal deposits
  - Pyridoxine: In EPP cases
  - UVB phototherapy and PUVA:Causes epidermal hyperplasia and increased melanization.
  - Alpha Melanocyte stimulating hormone analog: Increases tolerance to sunlight exposure

SYMPTOMATIC :

- Removal of excess facial hair
- Infected skin lesions: Antibiotics
- Neurological syndrome:Paracetamol, aspirin or dihydrocodeine for mild pain and morphine or pethidine for severe pain
- Beta blockers such as propranolol 60-180 mg/day for tachycardia and hypertension

- Constipation : Regular laxatives
- Obstipation : Neostigmine
- Convulsions:Intramuscular paraldehyde
- Fluid and electrolyte balance(hyponatremia and azotemia)
- Respiratory distress: Artificial respiration with positive pressure and physiotherapy
- To reduce overproduction of porphyrins: (by negative feedback)
  - Transcriptional activator(PGC-1)
  - High carbohydrate diet/glucose loading
  - Hematin infusions:4-8mg/kg over 30 minutes once/twice a day
  - Hematin preparations available: (i) hemarginate (ii) lyophilized hematin, panhematin
  - Tin-protoporphyrin and tin-mesoporphyrin
  - Low dose chloroquine 125mg twice/week for 8-18 months:

Mechanism :

  - Hepatic porphyrins are made more water soluble by forming complex with uroporphyrin
  - Reduces activity of ALA synthase -> inhibition of porphyrin synthesis

- **Iron depletion :**
  - Repeated Phlebotomy (venesection) every 2-4 weeks with removal up to 500ml blood till
    Hemoglobin : 10-12g/100ml
    Plasma iron : 50-60 microgram/100ml
    Urinary porphyrin excretion : 50-100 microgram/24 hr.
  - Plasma exchange
  - Iron chelating agents
  - Metabolic alkalization
  - High dose Vitamin E
  - Penicillamine
  - Recombinant human erythropoietin 1000-2000 IU thrice weekly
  - Limiting absorption of protoporphyrin: Cholestyramine and activated charcoal

SURGICAL PROCEDURES :

- Splenectomy : Diminishes hemolytic process and marrow hyperactivity -> reduction in porphyrin formation and thus, photosensitivity
- Bone marrow transplantation and Stem cell transplantation
- Liver transplantation in long standing cases
- Gene therapy

Ruchi Shah,
PG-2, Government Medical College,
Baroda, Gujarat

VITILIGO- WHITE PATCHES THAT PAINT MINDS BLACK; A YOUNG DERMATOLOGISTS' MUSINGS

Vitiligo is a common depigmentary disorder of the skin and mucous membranes occurring world wide with a prevalence of 1%. Other than a mere change in the skin color; this condition does not affect any internal organs and life expectancy is unaffected. So the only reason why it is a social stigma is due to the widespread prejudices, ignorance, taboos and confusion with leprosy.

Had Michael Jackson let the white patches on his skin decide his fate, we never would have had such an iconic pop star! Think about it! If a blemish on your skin were to score over your talents, then how is Shri.Amitabh Bachchan, India's most loved and popular actor? Would Chief Minister Shri N Chandrababu Naidu be ruling a state, if the pigment content in the melanocytes was a better criterion over intelligence and power? So also, if the deciding factor of your external beauty is a mere change in the color of your skin, then Canadian model Winnie Harlow wouldn't be one of the top models in the world.Apart from the fact that these are successful and famous people; they have one other thing in common - they all have a depigmenting disorder "Vitiligo".

Vitiligo is a common depigmentary disorder of the skin and mucous membranes occurring world wide with a prevalence of 1%. Other than a mere change in the skin color; this condition does not affect any internal organs and life expectancy is unaffected. So the only reason why it is a social stigma is due to the widespread prejudices, ignorance, taboos and confusion with leprosy.

As I walked into one of my beginning days of dermatology training I encountered my first case of vitiligo. A lady in her mid-twenties who was so disturbed by her skin color that she dodged mirrors, socially isolated herself and was more worried if it would spread to her internal organs.She broke down into tears while explaining her suffering.

There I learnt my first lesson - the treatment of vitiligo requires just more than medical knowledge; the knowing and ability to first treat the patient emotionally and mentally.

I watched carefully and was touched by the way my Prof and Head of Department calmed and counseled this deeply perturbed vitiligo patient.These were his first words: “Vitiligo onthu kayla alla. Athu aathara nodu baardu” translated “Vitiligo is not a disease first of all and you shouldn't see it that way". This changed my outlook towards vitiligo instantly - it's not a disease! It is a just a mere color change in the skin. These are words that I will definitely carry as a constant reminder to my grave. After that he took a few minutes, drew a very simple diagram and explained to the young girl about the condition. All of this made her feel much better and the actual treatment had not yet begun! This is a healing not even the costliest of treatments can offer.

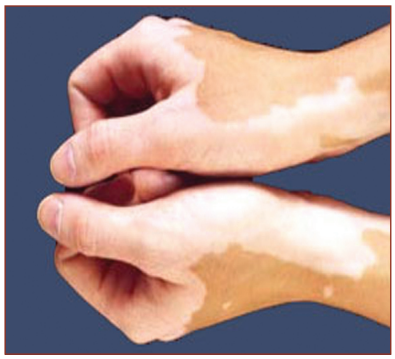
I learnt that day that a doctor may not be able to heal a disease completely, seldom can he relieve symptoms, but he can always comfort a patient with his words. No medical textbook teaches us this lesson, but it is the greatest lesson of them all. And this is the first step in treatment of vitiligo.

Another encounter was with a patient who told us that her husband used to physically abuse her because she had hidden the fact that she had a single vitiligo lesion on her inner thigh before they got married.

It’s ironical how we preach daily that we live in a civilized and modernized 21st century, yet there is a lot of misconception in our society. We see a lot of marriages being broken, people being deprived of jobs, and mental sufferings due to this social stigma. People are being ostracized because of a false illusion that this disease is contagious and transmissible in families when science has no evidence of its transmission by touch till date.

So, as we celebrate world vitiligo day today on June 25th I request all of you to remember that vitiligo is only a skin condition and it does not define who you are. Please do not let this condition stop you from facing the world or from touching your dreams.

Vitiligo is a non-contagious condition in all sexes and races equally. If you suffer from this condition neither hide yourself from the world nor hesitate to take treatment. Multiple modalities of treatment like narrow band phototherapy, targeted phototherapy, topicals, camouflaging creams, surgical options are available for treating this condition with significant success rates.Today’s society considers fair skin as beautiful skin and people are in a frenzy to become fairer and fairer day by day. The exception being vitiligo, despite being



fair on the outside it has the capacity to darken patient’s minds with despair and angst. Vitiligo is more than a patch on the skin, it’s a patch on the mind. This day is celebrated as a small step towards eliminating the discrimination towards our patients and I wish our society absorbs this message and retains it for the next 364days and not just this day.

I thank my mentors Dr. S.D.Shenoi, Dr. Sathish Pai, Dr. Raghavendra Rao, Dr. Smitha Prabhu, Dr. Sudhir Nayak, Dr. Varsha Shetty and Dr. Shricharith Shetty for giving me my first insight into vitiligo.

Dr. Surya Ravindran,
Junior Resident, Kasturba Medical College,
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CLINICO-AESTHETIC DERMATOLOGY : A BALANCING ACT!

INTRODUCTION : With an increasing demand to address the slightest of imperfections pertaining to the skin or hair, aesthetic dermatology is certainly squeezing its way into a dermatologists' office. With such demand come many expectations; some real,yet most, unreal from our beloved patients. Along with it also comes many labeled stereotypes, some explainable, others mostly unexplainable. Hence, an inevitable much-debated comparison tends to exist between clinical and aesthetic dermatology, and in fact such a debate is needed for the growth of the dermatology fraternity as a whole.Whilst many whole-heartedly support their respective sides (clinical vs. aesthetic) and practice only what they truly preach, it is important to strike a balance between the two and never completely escape the realm of the other.

CLINICAL DERMATOLOGY (MY MAA, BAAP)

Without an inkling of a doubt, clinical dermatology was, is and will be our building block that strengthens us to the core and thus shapes our future. For many, like me, clinical dermatology is a passion and a driving force because majority of our OPD is built upon clinical cases such as acne, dermatophytes, papulosquamous and hair disorders just to name a few. It is what we have breathed for two to three years and/ or even more to get to where we are today. The kind of pleasure one gets in diagnosing something like Darier's disease or pemphigus foliaceus clinically and the same being confirmed via histopathology, is irreplaceable, believe me! So, does clinical dermatology really matter if one wants to be a fully clad aesthetician? According to me, it does! Why so? Well, as one is bound to deal with skin/hair treatments, regardless of being a dedicated aesthetician, patients will still seek advice pertaining to skin/hair clinical conditions, knowledge of which is paramount. Yes, it is important to know the layers of the skin when doing a chemical peel to deliver the right concentration in the right layer for desired results. Rather, it is of prime importance to know when NOT to do a chemical peel, again knowledge of skin texture and type being important parameters in judging the same. Having knowledge and dealing with side effects is also of utmost importance. Patients want that extra bit of advice that you, being a dermatologist, know could help if something were to go wrong; and only those who have a strong fundamental foundation usually provide such in-depth advice. Similarly, doing procedures in conditions where Koebner's phenomenon exists, can potentially add "fuel to the fire" if you may!

Clinical dermatology pearls :

1) You have to know the basics to do well wherever you go!
2) Continue to be inquisitive and read journals, textbooks, social media and discuss with friends/colleagues about interesting clinical cases. (This has to happen till clinical dermatology waves a final good bye at you- uh, that will never happen!). No one knows everything. Be proactive in your search to acquire knowledge- do biopsies when having many differentials in mind; do a KOH mount when necessary, etc. Be it WhatsApp groups or the coveted Indian Journal of Dermatology Facebook page, the dermatology world is for your taking to share, learn and to

implement, the only requisite being an unhindered enthusiasm to progress. We are truly blessed to have many seniors (in the locality or on social media) to help us on the go whenever we are in doubt.

3) Attend conferences that have a blend of both clinical and aesthetic topics, especially those that specifically interest you or ones that can benefit your practice.
4) Your patient is your biggest teacher, it's literally free learning without any tuition fee– make the most of it! Spend time examining the skin as variations in morphology and/or distribution patterns of even relatively common disorders have changed over a period of time. (e.g. the origin duration and progress, family/drug history, etc.of a condition as stated by a patient does carry weightage in differentiating amongst many skin disorders, hence keep your ears and eyes open with an alert mind rather than keeping a self-perceived prejudice).
5) Keep some textbooks like Andrews', Fitzpatrick's, Wolverton etc. in your clinic and refer whenever you see the need.
6) Patients like to show prescriptions of prior treatments offered by other dermatologists immediately as they enter the cabin. Smile and say you will have a look at those later as you do not want to develop a clinical bias on the basis of those prescriptions.
7) Never bad mouth the judgment or treatment offered by another dermatologist whom the patient may have visited; instead offer your bit of advice and explain how you would like to proceed with further management.
8) Your clinical cases are your word of mouth publicity, hence be sympathetic and wise till the last patient you see on that long Saturday evening. The moment they improve clinically, news about your incredible approach and amazing results can spread like wildfire in the vicinity and beyond.
9) Once a patient is better in terms of a clinical condition you treated for, you and only you become that go-to "multi-talented dermat"; the same patient will want you to further enhance any perceived imperfections by use of aesthetic procedures as patients like to have all options under one roof. (e.g. they will certainly ask you if you could help them with laser hair reduction even though you may not have the machine)
10) The ambience/look of your clinic in itself will serve as a psychological impact for the patient in requesting for a certain treatment or procedure. For example, if your clinic's external walls/rooms are surmounted only of posters of models with flawless skin, the patient may think that he/she has walked into the wrong place for the treatment of his/her eczematous condition that has been plaguing him for many many weeks. Hence, if you practice both clinical dermatology and aesthetics, it is important to have visual displays/ signages of the facilities and services offered at your clinic (e.g. a patient consented before and after slideshow of the various clinical cases displayed on the TV in the reception area can also go along with the afore mentioned aesthetic setup)
11) Document your treatment results, especially with pre-consented clinical photographs, for your patient's and own benefit. (e.g. you realized after seeing clinical photographs that oral cyclosporine, after adequate laboratory assessment,was the only agent that worked in the treatment protocol of alopecia areata which was otherwise resistant to all other therapeutic measures and this was further shared with the patient, further enhancing the doctor-patient relationship)
12) Counseling is important as is honesty; the truth may hurt the patient for now but it will certainly prevent further false expectations from emerging. Even if the patient goes doctor hopping in all likelihood the truth you revealed would come out in the future, furthering a sense of faith and reliability in the patient's mindset.

13) Explain the clinical condition in practical terms and not medical lingo. (e.g. for autoimmune skin disorders for which a cause is unknown, one can simply explain that the protectors of our immune system are waging a civil war and trying to attack our own skin, the reason of which is not known to any doctor in the world)
14) Don't give "guarantees" nor "warranties" as results can vary and the moment you don't deliver as per your promises, the patient will stand on your head, let alone spread negative publicity. (e.g. counsel that his/her psoriasis is chronic and recurrent and you are there to help them control it and to improve their quality of life instead of saying you can cure it from the "root")
15) As my professor used to say, in order to be a good aesthetician, you have to first deliver in dermatology and not vice versa!

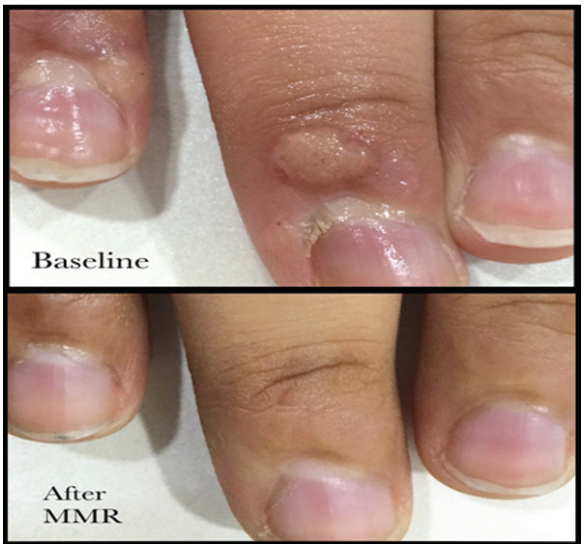

Figure 1 – Clinical Dermatology : Intralesional MMR therapy given in a patient in which topical solutions failed and where electrosurgery ideally should be avoided.

AESTHETIC DERMATOLOGY (MY "COOL" NRI FRIENDS)

Aesthetic medicine is a subspecialty of medicine and surgery that uniquely restricts itself to the enhancement of appearance through surgical and medical techniques. It is specifically concerned with maintaining normal appearance, restoring it or enhancing it beyond the average level toward some aesthetic ideal.

For the sake of metaphors, aesthetics is like that cool desi American friend who drives a BMW, has fashion sense, speaks flawless English, carries the latest gadgets and has worked hard to reach a high position within his/her field. Yes, indeed a majority of us would want some if not all of these (okok, so maybe you want a Rolls Royce Phantom instead), but as mentioned at the end, it requires hard workto reach that position, be it clinical dermat and/or aesthetics. Aesthetic procedures such as chemical peels, botulinum toxin and fillers, thread lift, lasers, PRP, mesotherapy, RF/ultrasound devices etc. are now routinely demanded by many patients. The reason for this increasing aesthetic demand may be due to: 1.) a want rather than a need to prolong youthfulness and prevent signs of further ageing; 2.) economic abundance; 3.) increased availability of newer cosmeceutics and devices requiring minimal downtime and complications; 4.) media-driven marketing. One has to realize, practicing aesthetics isn't easy (all that glitters isn't always gold!) as most procedures are inevitably related to the face, precision in catering desirable results is of utmost importance. Similarly, expectations of the patients are sometimes very unrealistic and never-ending; hence, a meticulous counseling session is much needed.

For example, for injecting dermal fillers, an in-depth knowledge of the facial anatomy, especially the course and depthsof numerous vessels has to be taken into account. For, placing the filler in the wrong plane can end up in an artery and can even lead to blindness. Even if aesthetics is an art, the canvas has to be of the right material to paint the final product.

Aesthetic dermatology pearls:

1) As learning is never ending, it doesn't hurt to learn about the science of aesthetic dermatology as more and more patients are requesting such procedures.It is important to be aware and have knowledge about various modalities when questioned by the patient even though you may decide against practicing the same.
2) A suggestion is to initially work under an experienced dermatologist, preferably one who does both clinical dermatology and aesthetic procedures very well.
3) Age shouldn't be stereotyped in practicing aesthetic dermatology. Even some very reputed senior clinical dermatologists (one which I was fortunate enough to work with) have learned the science of aesthetics and do a few aesthetic procedures on the basis of evidence-based medicine.
4) Attend workshops where you get at least a basic knowledge of the procedure(s) you would like to incorporate in practice.
5) Even some companies that market a particular product/machine/procedure have skilled personnel that visit clinics and train doctors regularly for better treatment outcomes.
6) Don't only do it because friends or colleagues are doing it; do it because you find it interesting or that you want to be well equipped with the latest procedures.
7) Money shouldn't be the primary aim. No, doing aesthetic procedures isn't an easy way of earning fast money as you have to know the science involved in detail and also deliver results on the same token. Remember, with the amount you charge, you carry an added responsibility on your shoulder in terms of both safety and efficacy. The charge of therapy should be based on expertise, skill, cost of consumables, average rates across the market, etc. and not based on your greed!
8) Don't try to hard sell; take it one step at a time, else the patient may just run away, never turn up again and also spread negative words about you. At the same time, don't compromise on results just because the patient wants the treatment done within a fixed budget. For example, when doing dermal fillers in say a 50-year-old with corrections needed in the mid and lower face, defer from doing the procedure altogether if the patient wants you to do only 1 ml's worth. You can explain that 1 ml will do no justice to the desired result sought.
9.) Don't trust everything you hear from others; you have to believe in a procedure/product yourself to be able to convince your patients for the same.US-FDA approval has no meaning until you yourself don't believe in the use of a certain agent or procedure; hence, read related publications and keep your ears open as to the general consensus of experienced faculty and then take a call whether you want to incorporate the same in your practice.
10) Aesthetic consultations require a good amount of time to explain all the possibilities, expectations, side effects, complications etc. As there is a relative subjectivity and variation in terms of results in many procedures, it is important to mention and document all possible outcomes and also to obtain a written consent from the patient.
11) It is important to undertake a professional indemnity insurance that also covers aesthetic proceduresfrom a reliable company in view of the medico-legal implications.
12) We as doctors are generally able to perceive the thought process of our patients; hence, be wise and thoughtful when you want to offer a particular service to a patient. (e.g. don't keep offering Botulinum toxin injections or dermal fillers to a patient who has reservations against non-natural methods and prefers things like applying multani mitti)
13) Rule of thumb- Less is always more, hence, especially with injectables, do less then what may actually be required and call the patient back at a later date for assessment (as at times results can be unpredictable and can vary).

14) If you want the patient to be aware of the various aesthetic treatments that are offered at your clinic apart from the clinical dermatology cases you see, it is imperative to keep pamphlets/ brochures/standees/AV displays of some if not all of these treatments in the reception area.
15) Again here, word of mouth is the best publicity. Patients often discuss amongst friends and relatives: "my hair fall has lessened considerably since starting his treatment, and get this you can get skin polishing and chemical peels done at his clinic too"
16) Surprising as it may seem, due to this increased demand of aesthetic procedures and a "perceived" economic benefit that goes along with it, there has thus been a surge in the number of beauty parlors and charlatans providing the same services. The differentiating point between them and you being, your dermatology knowledge and acumen in dealing with any unwanted adverse events. Remember one thing, inevitably, these are the same patients that will end up coming to you because of the wrongdoings they encountered in unqualified hands. Hence such places produce one-time "customers" which further progress to lifetime"patients" in your clinical practice.
17) Never over-exaggerate about the benefits of a particular therapeutic modality nor make unsubstantiated claims of superiority- these can backfire at the blink of an eye the moment the patient doesn't get what you so surely promised him/her.
18) You must learn to say "no" to demands of patients, when there are apprehensions in terms of scientific limitations or possible side effects which may be encountered therein (e.g. avoid doing a glycolic peel in severely xerotic skin; avoid doing PRP along with dermaroller on a psoriatic scalp; avoid most procedures in presence of herpetic infection)
19) You can't learn swimming unless you jump into the pool; to start, you have to start!Whenever you start, there is likelihood you may not get the desired results you had hoped for, but it should not be the result of gross scientific miscalculations/errors. Rather, analyze the shortcomings and find ways to circumvent them the next time around. The more you do, the better you get with each procedure.

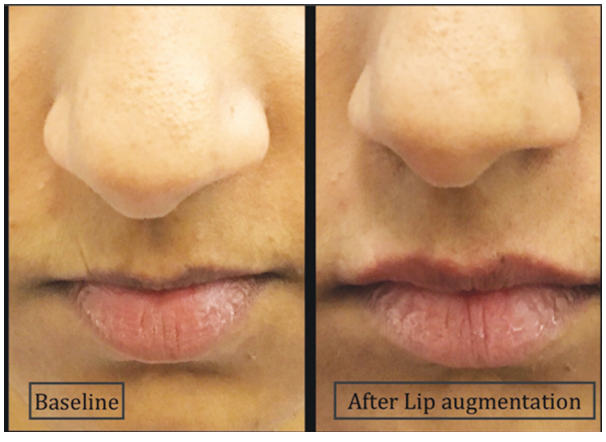

Figure 2 - Aesthetic Dermatology : Soft tissue filler done for lip augmentation along with CO2 Fractional Laser done for scar on right side of upper lip (in separate sittings)

CONCLUSION : At the end of the day, you have to be good and love whatever you do, be it clinical dermatology and/or aesthetics. Passion, motivation, judiciousness and basic clinical knowledge are all major determinants of success to serve justice to both clinical and aesthetic practice.

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DERMATOLOGY NOTES - II

NEWER ANTIFUNGALS IN DERMATOLOGY

In the management of fungal infections, antifungal therapy forms the central component. The number of newer antifungal agents are expanding day by day. Terbinafine is still the gold standard antifungal therapy. Due to potential adverse effects, ketoconazole is no longer considered as first line therapy in treating superficial fungal infection.[1]

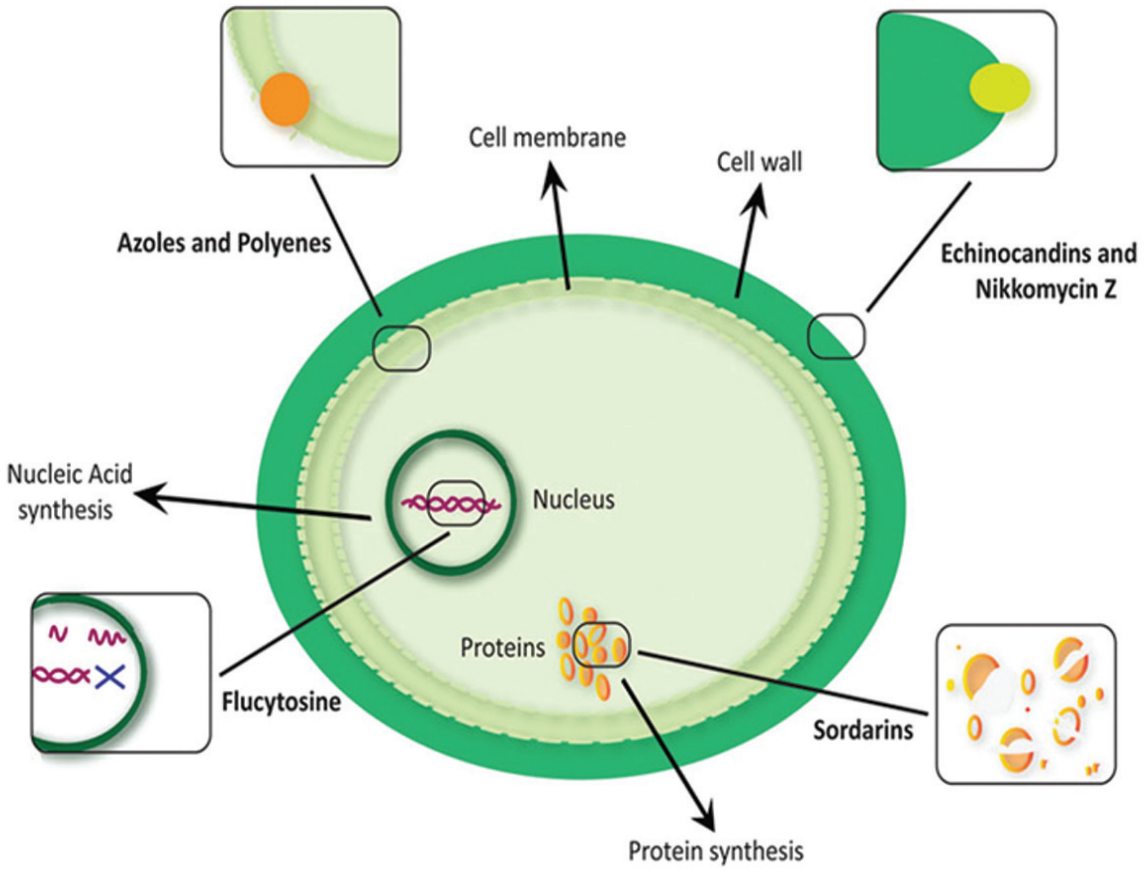
CLASSIFICATION OF ANTIFUNGALS THERAPY [2,3,4]

ANTIFUNGAL CLASS	EXAMPLE
Antibiotics - Polyenes	Amphotericin B, nystatin, natamycin
- Heterocyclic benzofuran	Griseofulvin
Antimetabolite	
	Flucytosine
Azoles - Imidazoles	Topical- clotrimazole, econazole, miconazole, oxiconazole, tioconazole, sertaconazole, luliconazole, Isoconazole, Butoconazole, bifonazole *, eberconazole*, fenticonazole*, Croconazole*, Flutrimazole*, Enilconazole*, Lanoconazole*, Neticonazole* Systemic- ketoconazole
- Triazoles	Itraconazole, fluconazole (also topical), voriconazole, posaconazole, isavuconazole, Efinaconazole (topical), ravuconazole*, pramiconazole*, albaconazole*
Allylamines	Terbinafine, butenafine, naftifine
Echinocandins	Caspofungin, anidulafungin, micafungin, Aminocandin*
Sordarin derivatives	GR135402, GM237354
Cell wall antagonist	Caspofungin, micafungin
Morpholine derivatives	Amorolfine HCL*
Piridone derivatives	Ciclopirox olamine
Thiocarbamate	Tolnaftate
Oxaborole	Tavaborole
Other agents	Undecylenic acid, buclosamide, Whitfield's ointment*, benzoyl peroxide, zinc pyrithione, selenium sulfide, azelaic acid, nikkomycins, icofungipen
Newer and potential therapies	Demcidin*, macrocarpal C*, VT-1161*, Drug 33525*, LAS41003*, ME-1111*

* Not FDA approved

Since 2008, there has been addition of only ISAVUCONAZOLE (FDA approved – 03/06/2015) to the systemic antifungals group. VORICONAZOLE and POSACONAZOLE were FDA approved in 2002 & 2006 respectively. Echinocandin group of antifungals which consists of CASPOFUNGIN, MICAFUNGIN & ANIDULAFUNGIN were FDA approved in 2001, 2005 & 2006 respectively for the treatment of dermatophytosis.Among the topical antifungals there are many newer additions, they include EFINACONAZOLE (2014), LULICONAZOLE (2013), SERTACONAZOLE (2003) & TAVABOROLE (2014). Now the research is diverted to bettering the utility of available antifungal drugs by developing novel drug delivery systems to increase the compliance and efficacy.[1,3,5]

Figure 1: Mechanism of various antifungal drugs[6]



SYSTEMIC ANTIFUNGALS

1. AZOLE ANTIFUNGALS

Mechanism of action : Inhibition of the cytochrome P450–dependent enzyme lanosterol 14-alpha-demethylase. This enzyme is necessary for the conversion of lanosterol to ergosterol, a vital component of the cellular membrane of fungi. Disruptions in the biosynthesis of ergosterol cause significant damage to the cell membrane by increasing its permeability, resulting in cell lysis and death.

a) ISAVUCONAZOLE [4,6,7]

It is a new broad spectrum triazole antifungal.

Pharmacology : Pro drug - ISAVUCONAZONIUM SULFATE (IS), highly potent, water soluble triazole suitable for both per oral and intravenous administration. After administration, it rapidly and completely (>99%) undergoes enzymatic activation & chemical degradation to release the active drug and inactive cleaved protein.

Action : Broad spectrum - yeast & mould - Aspergillus (fungicidal), Fusarium, Candida, Mucorales, Cryptococcus spp, melanized and dimorphic fungi, dermatophytes that can reproduce in culture by unilateral budding and their filamentous co-species.

Brand name : CRESEMBA

Dosage : Capsule – 186mg, injection – 372mg

Recommended dose : Loading dose of 372mg isavuconazonium sulphate (equivalent to 200mg of isavuconzole) every 8hrs for 6 doses (48hrs) which can be either per oral (2 capsules) or intravenous administration (one reconstituted vial). Followed by maintenance of dose of 372mg isavuconazonium sulphate once daily (either per oral or intravenous)

starting 12- 24hrs after the last loading dose.

Pregnancy category : C

Uses : Invasive aspergillosis (FDA), invasive mucormycosis(FDA), candidiasis (yeast and mould)

b) VORICONAZOLE[3, 6-10]

It is a member of 2nd generation of triazoles. It is low molecular weight, water soluble, structurally similar to fluconazole.

Pharmacology : Peak levels – 1-2hrs, Half-life 6hours, Percentage bioavailability – 96%, Protein binding – 58%, Metabolism – CYP2C19, Excretion – renal (80%), CSF levels 50% of serum levels (<fluconazole)

Action – Broad spectrum (except against zygomycetes)

Dosage : Tablet 50, 200 mg, intravenous 200 mg/vial, oral suspension 200 mg/5 mL (atleast 1 hour before or after meal), Adults - Load: 6 mg/kg/dose BID × 1 day, Maintenance: 4 mg/kg/dose BID

Uses : Treatment and prophylaxis of invasive fungal infections. It is recommended first choice for invasive aspergillosis (fungicidal, FDA). It is also recommended in treating esophageal candidiasis (FDA), candidemia-nonneutropenic, disseminated candidiasis (fungistatic, FDA), serious fungal infections due to Scedosporium spp,Trichosporon spp., Acremonium spp., and Fusarium spp which are refractory to other therapy (FDA).Used as salvage therapy for histoplasmosis and coccidioidomycosis, CNS blastomycosis

Contraindication : Co-administration with drugs which cause QT prolongation, torsades de pointes, hypersensitivity to voriconazole.

Side effects : Visual disturbances, nausea, vomiting,cholestaticjaundice,cutaneous(erythema multiforme, SJS-TEN, photosensitivity, alopecia, erythroderma), headache, hallucination, peripheral edema, abnormal LFT, abnormal RFT, acute kidney failure, photophobia, chromotopsia, hypokalemia, tachycardia, fever and chills.

Pregnancy category : D

Drug interaction : Contraindicated use with fluconazole, quinidine, pimozide, astemizole, terfenadine, ritonavir, cisapride, barbiturates, ergot, carbamazepine, sirolimus, rifampin and rifabutin

Novel drug delivery : Self-emulsifying drug delivery system (SEDDS), Floating tablets, microemulsion

Precautions : Monitoring – vision, RFT and LFT, avoid sunlight, used >28 days - avoid driving in the night and risk factor for acute pancreatitis

c) POSACONAZOLE [7,8,9]

It is a member of 2nd generation of triazoles. It is lipophilic, structurally similar to itraconazole.

Pharmacology : Peak levels – 3-5hrs, half-life – 35hrs, increased bioavailability with fat rich foods hence administer with food, protein binding – 98%, Metabolism – UDP glucoronidation and p-glycoprotein substrate, CYP3A4, Excretion – Fecal 71%,renal 13%

Action : It is distinguished from the other azoles by its potency in vitro activity against Mucor spp. It has improved action against Aspergillus spp.

Dosage : Tablet – 800mg daily 2-4 divided doses, Injection 300mg/16.7 ml (18mg/ml), 40 mg/mL oral suspension,

Uses : Invasive fungal infection, oropharyngeal candidiasis (FDA), systemic candida infection (FDA), aspergillosis (FDA), onychomycosis

Posaconazole is approved only for the following groups of patients.

i. Those who are aged 13 years or older (FDA approved for prophylaxis of invasive aspergillosis and Candida infections)
ii. Those receiving remission- Induction chemotherapyforacutemyelogenousleukemia (AML) or myelodysplastic syndromes (MDS) expected to result in prolonged neutropenia and those at high risk of developing invasive fungal infections.
iii. It is also indicated for prophylaxis in recipients of hematopoietic stem cell transplant (HSCT) who are undergoing high-dose immunosuppressive therapy for graft versus host disease
iv. As salvage therapy of invasive aspergillosis, histoplasmosis and coccidioidomycosis that is refractory to other treatment
v. Treatment of oropharyngeal candidiasis, including cases refractory to itraconazole and

fluconazole treatment.

vi. In patients who are intolerant of the other medicines

Contraindication : Co-administration withdrugs likely to cause QT prolongation, hypersensitivity toposaconazole, or any vehicle, or otherazole antifungal

Adverse effect : Diarrhea, nausea, vomiting, abdominal pain, constipation, mucositis, dyspepsia, rash, increased itching, pruritus, headache, dizziness, bilirubinemia, abnormal LFT, Fever (45%), rigors, fatigue, edema-legs, anorexia, tachycardia, hypertension, hypotension, anemia, neutropenia, hypokalemia, hypomagnesemia, hyperglycemia, musculoskeletal pain, arthralgia, thrombocytopenia, petechiae, back pain, insomnia, coughing, dyspnoea, epistaxis, anxiety, hypoglycemia, weakness

Pregnancy category : C, secreted in breastmilk

Drug interaction : Contraindicated use quinidine, pimozide, astemizole, terfenadine, phenytoin, rifabutin, cimetidine.

Precaution : Monitor – LFT, pro-arrhythmic, correct potassium, magnesium& calcium levels before starting this medication

2. ECHINOCANDINS[6,9,11]

They are recent addition with a unique mechanism of action. There are currently three echinocandin antifungal agents which are FDA approved and in clinical use : Caspofungin, Micafungin, and Anidulafungin

Mechanism of action : These agents block fungal cell wall synthesis through inhibition of beta-(1,3)-D-glucan synthase, resulting in fungicidal effects against Candida spp. and fungistatic effects against Aspergillus spp.

PROPERTIES	CASPOFUNGIN	MICAFUNGIN	ANIDULAFUNGIN
Derived from	Glarea lozoyensis,	Coleophoma empetri	Aspergillus nidulans
Half-life(hours)	Triphasic elimination Alpha phase – 1-2hours Beta phase – 9-11 hours Gamma phase – 40-50hours	11-17 hours	40-50 hours
Plasma protein binding (%)	97%	99.8%	84%
Action	Aspergillus spp. and is fungicidal against Candida spp. including non albicans strains.	As caspofungin	As caspofungin
Metabolism	There is slow metabolism of caspofungin by hydrolysis and N-acetylation	Micafungin is metabolised by arylsulfatase to its catechol form and further metabolised to the methoxy form by catechol-O-methyltransferase. Some hydroxylation to micafungin via cytochrome P450 isoenzymes also occurs.	Not metabolized but undergoes chemical degradation to inactive peptides slowly
Excretion	Feces, urine.	Feces 71%, urine 12%	Feces 10%, urine 1%

Candidemia/invasive Candidiasis (FDA, adults)	Available as lyophilized powder for injection 70 mg intravenous loading dose followed by 50 mg intravenous daily	Available as lyophilized powder for injection 100 mg intravenous daily	Available as lyophilized powder for injection 200 mg intravenous loading dose followed by 100 mg intravenous daily
Esophageal candidiasis (FDA, adults)	50 mg intravenous daily	150 mg intravenous daily	100 mg intravenous loading dose followed by 50 mg intravenous daily
Children **3 months to 17 years**	70 mg/m2 loading dose followed by 50 mg/m2 daily, up to 70 mg daily maximum	-	-
Other FDA-approved Indications	Invasive aspergillosis (intolerant/refractory to other therapies) and Empirical therapy in Febrile Neutropenia : 70 mg loading dose followed by 50 mg intravenous daily	Prophylaxis in Hematopoetic Stem Cell Transplantation recipients: 50 mg intravenousdaily	-
Other uses	-	Aspergillosis, Candida abscesses and peritonitis	Aspergillosis
Duration of infusion/ infusion rate	1 hour	1 hour	Rate not to exceed 1.1 mg/min
Adverse effects	Anemia, diarrhea, nausea, vomiting, flushing, headache, fever, tachycardia, and venous complications around the infusion site. Possible histamine-mediated symptoms like rash, facial swelling, pruritus, sensation of warmth, or bronchospasm. Anaphylaxis also has occurred.	As caspofungin, renal dysfunction or acute renal failure	As caspofungin

Drug interaction	Drugs that induce hepatic enzymes may increase its clearance - carbamazepine, dexamethasone, efavirenz, nevirapine, phenytoin, and rifampicin. Caspofungin has resulted in decreased blood concentrations of tacrolimus It should not be prescribed with cyclosporine	Micafungin may increase the area under the concentration-time curve for nifedipine and sirolimus.	Few drug interactions only
Dose adjustment	Reduced doses in patients with hepatic impairment	Patients who develop abnormal liver or renal function tests while taking micafungin should be monitored for deterioration in hepatic or renal function respectively.	Not required in patients with hepatic or renal impairment.
Pregnancy and lactation	Avoided	Avoided	Avoided

TOPICAL ANTIFUNGALS

1. AZOLE ANTIFUNGAL

a) EFINACONAZOLE[1,5,12]

Efinaconazole topical solution is a triazole antifungal agent.

Pharmacology : Major metabolite – H3. Efinaconazole inhibits CYP2C8, CYP2C9, CYP2C19, and CYP3A4, and the H3 metabolite inhibits CYP2B6. They remain in the nail plate at concentrations above the minimum inhibitory concentration (MIC) values for dermatophytes for up to 28 days or longer following treatment.

Action : Exhibits broad-spectrum antifungal activity in vitro, with potency similar to or greater than that of drugs currently used in the treatment of onychomycosis, especially T. rubrum and T. interdigitale. It may also have efficacy against non-dermatophyte molds and yeasts (yet to be proved)

Dosage : 10% solution, both transungual and subungual routes of delivery are utilized

Uses : Treatment for onychomycosis (FDA). It may be effective in treating patients that may otherwise not consider topical antifungal therapy (e.g., diabetics, dermatophytoma)

Adverse effects : Local application site reaction (vehicle)

b) LULICONAZOLE[1,5,12,13]

It is an imidazole antifungal agent

Pharmacology : It possesses excellent permeability and retention in the stratum corneum and superior fungicidal activity, over a short-term treatment period. It remains active in the presence of keratin and excellent penetration through the nail layer.

Action : It is active against T. rubrum, E. floccosum, C albicans, Malassezia subspecies and A. fumigatus. Luliconazole, which belongs to the azole group, has strong fungicidal activity against

Trichophyton spp., similar to that of terbinafine.

Dosage : 1 % cream, that is applied topically once daily for 2 weeks for interdigital tinea pedis and once daily for 1 week for tinea cruris and tinea corporis. Luliconazole is currently not indicated for ophthalmic, oral, or intravaginal use.

Uses : Treatment of tinea pedis (FDA) and can be effective in treating tinea corporis/ tinea cruris (FDA) as well. The once-a-day application, may encourage compliance. Luliconazole 10% cream is currently being investigated for potential use in the treatment of onychomycosis

Adverse effect : General application site reactions, pruritus, allergic contact dermatitis and pain

c) SERTACONAZOLE [8,14]

Sertaconazole is an imidazole antifungal

Pharmacology: It is relatively lipophilic compared to other azoles, leading to a greater reservoir effect in the stratum corneum. In addition to lanosterol 14α-demethylase inhibition, sertaconazole also binds to non-sterol cell membrane lipids, leading to altered membrane permeability and ultimately to leakage of intracellular contents in susceptible microbes. Hence, it can be fungistatic or fungicidal.

Action : T. rubrum, T. mentagrophytes, and E. floccosum. The drug also has excellent activity against most common Candida species and modest activity against Gram-positive bacteria.

Dosage : Used topically as the nitrate as a 2% cream, gel, solution, pessary, powder or intravaginal tablets (for single-dose treatment of candidiasis). For tinea pedis the approved regimen involves twice-daily application for 4 weeks.

Uses : Treatment of superficial candidiasis, dermatophytosis, seborrheic dermatitis and pityriasis versicolor. In the treatment of vaginal candidiasis,it is used as a 2% vaginal cream daily for 7 or 8 days or as a singledose of a 300-mg or 500-mg pessary.

Adverse effects : Excellent safety record, rare cases of allergic contact dermatitis

Pregnancy Category : C

2. OXABOROLE

a) TAVABOROLE[1,5,12]

It is the first in new class of boron-based pharmaceutical agents.

Pharmacology : Low-molecular-weight (152 kDa) and high amount of penetration through full-thickness human nail plates. Because of the small size and polarity of tavaborole, it is likely that it is quickly metabolized. It remains in the nail plate at concentrations above the MIC values for dermatophytes for up to 28 days or longer following treatment

Mechanism of action : Highly specific fungal protein synthesis inhibitor that forms a boron-based bond at the enzyme-editing site to prevent catalytic turnover of leucyl-tRNA synthetase and blocks fungal protein synthesis, whereas most existing antifungals target ergosterol synthesis. It binds to the fungal enzyme with 1000 times greater selectivity than for the mammalian aminoacyl tRNA synthetase.

Action : Broad-spectrum activity in vitro against dermatophytes, non-dermatophyte molds, and yeasts, but clinical efficacy has not been demonstrated with the latter two.

Dosage : 5% solution, once daily application for 48 weeks for toe nail onychomycosis.Tavaborole should completely cover the entire surface of the toenail and underneath the tip of the toenail. But it is not indicated for oral, ophthalmic or intravaginal use.

Uses : Treatment of onychomycosis of the toenails (FDA). It will be of use in treatment of dermatophytoses if the concern of antifungal resistance to azoles continues to develop.

Adverse effect : Local reactions- exfoliation, dermatitis, and erythema

Along with the above-mentioned drugs, the older drugs are modified with novel drug delivery systems and are combined with other antifungals to reduce the morbidity due to fungal infections. However, the most effective way to combat dermatophyte and other fungal infections is to educate patients onpreventative measures to be undertaken in conjunction with antifungal treatment.

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MIND BUZZER

A. MATCH THE MUTATIONS:(There may be more than one match)

(1)	PTPN11	(a) Cutis laxa
(2)	PTCH1	(b) LEOPARD syndrome
(3)	ATP7A	(c) Dermatopathia pigmentosa reticularis
(4)	ABCA12	(d) Menke's kinky hair disease
(5)	FBLN5 (Fibulin 5)	(e) Harlequin ichthyosis
(6)	GJB2	(f) Nail patella syndrome
(7)	LMX1B	(g) Lamellar ichthyosis
(8)	TGM1	(h) Gorlin syndrome
(9)	KRT14	(i) Vohwinkel syndrome

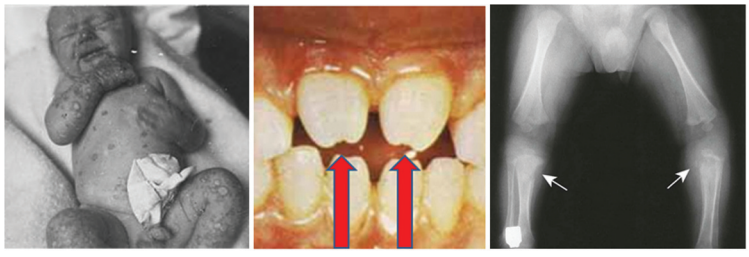
B. ORIGIN OF SPECIES :

(1) Tacrolimus – .....
(2) Mycophenolate mofetil – .....
(3) Retapamulin – .....
(4) Mupirocin – .....
(5) Ivermectin – .....
(6) Methoxypsoralen – .....
(7) Cyclosporin – .....

C. IDENTIFY THE CONDITION :

Each set of pictures refers to a single disorder/disease.

1



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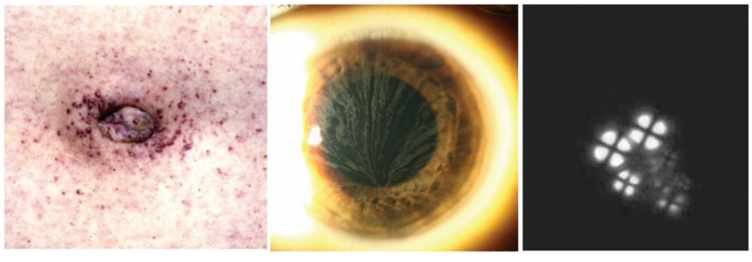

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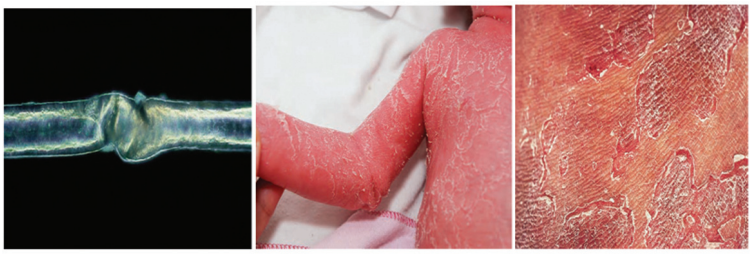

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THE INCOGNITO MODE!!

``Quackery gives birth to nothing, gives death to all things"
- Thomas Carlyle

I beg to differ. Quackery indeed has killed many but it has also given the world its gift of new things. Like, newer dermatoses (better known as dermatoses due to quackery), complicate the otherwise uncomplicated diagnosis and ensure that dermatologists tax their grey cells beyond imagination.

Quackery, or in better words,the art of curing everything,using the best of the worst ways that exist. Dermatological diseases are one of the easiest targets for prevalent quackery because of the common perception in India that it is 'just' a skin disease. Even today in the 21st century skin diseases are mostly ignored, or complicated by many age-old rituals before the patients actually arrives to a qualified dermatologist.

Quackery is everywhere, it has alot of forms. It is not only an unqualified man pretending to be a doctor, but also exists in the form of that pharmacist with no knowledge of pharmacy, as a sister/mother/friend who gift you that tube of hope, fairness and cure, that beautician with a bottle of 'bleach' in her hands and also that Bollywood star endorsing that 'magic tube'.

Quacks have the most unimaginable and brutal (read: zalim) concoctions up their sleeves for all kind of skin ailments, every tube of that concoction is offered with a promise, a promise to not only cure that annoying itch but to also make your skin 'shine', white/light/bright.

And it's not just confined to real human quacks, its buzzing in the virtual world too. The internet is overflowing with so called homeremedies that use everything from toothpaste to baking soda to vinegar and every other thing on your kitchen shelf that could make your skin burn (no skin? no problem?).

As we move from rural to urban areas, quackery remains constant, the only thing that changes is the composition of these magic potions that are offered, it gradually shifts from cow and rat dung to more presentable pretty tubes. And the quackery in urban areas is going beyond the horizon of just tubes and topical preparations, there are quacks now delving into dermatological procedures too. The question is where do they acquire these skills and the confidence to address themselves as 'qualified dermatologists' from?

The world of dermatology has entered the incognito mode.

When was the last time one saw a fungal infection in its raw, virgin form? A rarity it is.

A part of the fault lies in our system, lack of awareness, lack of accessibility and misconceptions. The ratio of dermatologists to patients is not a pretty sight and dermatological care is not accessible to all. But is quackery the right answer to this dwindling ratio? Also, what about the urban areas that have ample access to specialised health care?

Even the most educated people find it easier to google their symptoms and apply that easily accessible toothpaste on their acne than take a proper consultation. The loopholes in our medical setup allow


"More and more patients are going to the Internet for medical advice. To keep my practice going, I changed my name to Dr. Google."

unqualified or sometimes not enough qualified ones to practice as 'qualified dermatologists' and dance their way to glory. The quacks give a false sense of relief to the ailing, a false satisfaction that their sickness has received the medical attention it deserves. Many a time, finance and resources are wasted on these so called prescriptions that mostly do more harm than good. Moreover, India being a country of Bollywood obsessed fans has only amplified this problem for our fraternity with the endorsement of dermatological health care products by celebrities. Let not our subject enter the incognito mode eternally. In order to save our fraternity and our patients, as dermatologists, on a personal level all we can do is atleast raise our voices when we see such malpractices and educate.

Education is the key, be it our patients, the general public, new medical graduates or our family and friends. Because the first step towards change is awareness.

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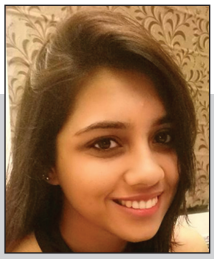

ANSWERS

A. MATCH THE MUTATIONS

(1) – (b)
(2) – (h)
(3) – (a), (d)
(4) – (e), (g)
(5) – (a)
(6) – (i)
(7) – (f)
(8) – (g)
(9) – (c)

B. ORIGIN OF SPECIES :

Tacrolimus – Streptomyces tsukubaensis
Mycophenolate mofetil – Penicillium stoloniferum
Retapamulin – Clitopilus scyphoides
Mupirocin – Pseudomonas fluorescens
Ivermectin – Streptomyces avermitilis
Methoxypsoralen¬– Psoralea corylifolia
Cyclosporin– Tolypocladium inflatum

C. IDENTIFY THE CONDITION :

(1) Widespread papulovesicular lesions, notched upper, central incisors (Hutchinson's teeth) & destruction of proximal metaphyses of tibia (Wimberger's sign) – **Congenital Syphilis**

(2) Angiokeratoma corporis diffusum, cornea verticillata & Maltese cross appearance of urinary sediment on polarising light – **Fabry's disease**

(3) Trichorrhexis invaginata, congenital ichthyosiform erythroderma & Ichthyosis linearis circumflexa – **Comel-Netherton syndrome**

NOTES

NOTES

We hope you have liked this effort of ours.

Mail us your feedback, queries and articles at

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Regards,

Editorial Team

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