IADVL ACNEWS

IADVL ACNE TASKFORCE (IADVL ACADEMY) NEWSLETTER

VOLUME 1, ISSUE 1, JANUARY 2022

IADVL ACNE TASKFORCE 2021

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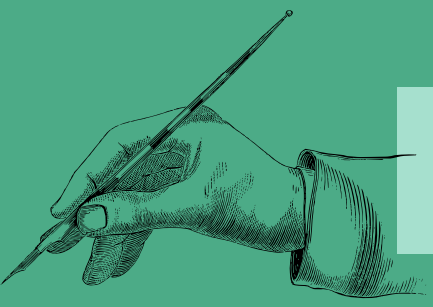


PRESIDENTIAL PEN

Dr.Jayadev Betkerur

Acne is a problem faced by all. The young, the not so young and all genders. We have studied it extensively, worked on it and sometimes suffered by it. The myriad presentations and its effect on an individual make it a problem difficult to manage. A multi pronged approach by all of us – Dermatologists, Psychiatrists, endocrinologists and gynaecologists is needed to solve this ever bothering but often self limiting dermatological health issue.

We, IADVL & IADVL Academy, had formed a task force – IADVL Acne Task Force(IATF) to deal with acne, the disease and the after effects of that. It was Headed by Co-ordinator Dr Niti Khunger with Dr Swapnil Shah as convener and an enthusiastic team. It is to their credit that about 10 CME's were planned and executed, some in collaboration with state branches, with finesse. More so considering the difficult times we all were in. The approach was systematic covering all aspects of Acne. Many youngsters were recognised and given opportunities to work in tandem with seniors. The work of IATF was appreciated by one and all. The attendance to each of these CMEs is the evidence to their popularity.

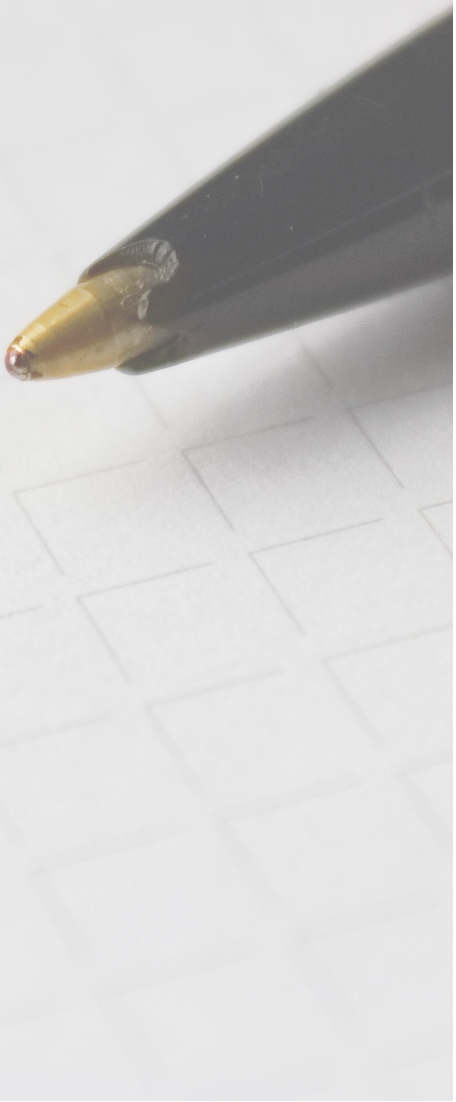
It is very appropriate that the work of IATF culminates with publication of e - newsletter –ACNEWS. This issue will be of immense interest to readers. Contributions by experts will be enlightening in understanding Acne. It is my pleasure to say these good words about great work done by team IATF and wish them the very best in bringing out “ACNEWS”.
Read, understand and remember.

Long live IADVL

Message from President Elect

Dr Rashmi Sarkar,MD,FAMS

Dear IADVL Members,
Amongst the various academic groups of IADVL,Acne Task Force has been very active in 2021 in carrying out online CME webinars and working on a consensus statement.We are very fortunate to have a hard working IADVL Acne Task Force(IADVL Academy) under Dr Niti Khunger,Coordinator and Dr Swapnil Shah,Convener who have made sure to carry out several activities throughout the year in 2021 along with their team members.I congratulate them and the entire task force for coming up with a newsletter mentioning these activities in details.
Long live IADVL!



Message from IADVL Academy Chairperson

Dr Deepika Pandhi

Acne vulgaris is a chronic, inflammatory disease of the pilosebaceous unit of the skin that is almost ubiquitously present in adolescence. The common prevalence often leads to a conundrum in the patient's mind-to treat or not to treat acne. It also leads to sprouting of myriad home-based remedies and low evidence therapy being recommended. With its multifactorial pathogenesis, and recent upsurge in adult acne and recognition of associations including consequences of hormonal acne, there has been an increased interest in acne therapeutic options and discovery of several new molecules and new targets. This is especially relevant as we now know that acne vulgaris can cause permanent scarring that negatively impacts the quality of life and leads to poor self-image and also that the timely institution of effective treatment is imperative.

With this in mind the IADVL EC and IADVL Academy initiated the IADVL Acne taskforce in 2021, with Dr Niti Khunger as the Coordinator and Dr Swapnil Shah as the Convener. All the taskforce members have contributed very well to the 8 CME sessions with IADVL state branches, generating a lot of interest amongst IADVL members and also held a video workshop for active acne and acne scar management.

They have also planned to take up Evidence based treatment guidelines and have come out with this excellent Newsletter- "ACNEWS." It is a comprehensive newsletter covering the pathogenesis, the clinical variants, role of diet, anti-androgens and chemical peels in management in a succinct manner. Interesting panel pearls- Tips and Tricks by Dr. Rajat Kandhari and Dr. Pravin Banodkar and a novel -From the Physician's Desk by Dr.Niti Khunger and Dr.Rochelle C Monteiro and a patient's perspective by Dr. Monisha Madhumita make for an interesting read. I am sure you will find the Quiz & the crossword challenging and interesting. Congratulations to the members of IADVL Acne taskforce for coming out with this informative and aesthetically appealing volume of ACNEWS- hopefully the first of many. Let's enjoy this excellent compilation and learn the intricacies of acne management. Your feedback will be welcome.
Happy Reading!

FROM THE DESK OF IADVL ACADEMY CONVENER

Dr Dipankar De

It gives me immense pleasure to pen this brief note for the forthcoming newsletter (ACNEWS) of IADVL Acne Taskforce. The taskforce was formed in April 2021 to formulate the content for a series of CMES on acne for disseminating information on medical and procedural aspects of acne.

The taskforce has been vibrant in its activities over more than 9 months now. It has covered varied topics on understanding pathogenesis, clinical/ psychological aspect and management of acne- medical and procedural in the CMEs that the taskforce has conducted. The newsletter brought out by the taskforce (Coordinator- Dr Niti Khunger, Convener- Dr Swapnil Shah) is edited by Dr Rochelle Monteiro. It provides brief write ups on what's new on various aspects of acne, physicians' take and patient's perception on acne as well as a crossword puzzle.

The write-ups are brief, practical and to the point. The newsletter is sprinkled with images, diagrams, flowcharts, tables that drives home the points efficiently. Color combination used is catchy and soothing to the eyes of the readers and should hold attention.

My compliments and congratulations to the Acne Taskforce for the wonderful work they have carried out in terms of identifying and developing content and conduct of the practically oriented and clinically useful CMEs. The recorded version of these CMEs will be available on the IADVL Academy webpage (https://iadvl.mediknit.org) for the sake of posterity. This newsletter is simply the icing on the cake. I am sure the newsletter will be appreciated by the readers.

Welcome Note

Dr Niti Khunger
Coordinator
IADVL Acne Task Force

Mirror mirror on the wall
Clear the acne once for all
Let the scars just fade away
Oh ,show me the way
Please show me the way!

What was once considered a passing phase of adolescence, has now become a complex disease with multiple pathogenetic factors, extending into adulthood and middle age. Unless these factors are not conquered, acne and acne scars will remain an enigmatic disease. We at the IADVL Acne Task Force have attempted to address all these factors through our CMEs and bring about a scientific basis of treatment. Our panel discussions have deftly handled difficult situations and patients and provided concrete answers.

This is our first newsletter, ACNEWS, summarising few interesting aspects of our CMEs.

I hope it is enjoyable and useful.

However our work is far from over. The next step is formulation of Consensus Statements which focusses on the Indian Scenario. The groundwork has been laid and we will be publishing our results, which will be useful for all practitioners.

I thank the IADVL EC and IADVL Academy for conceiving and entrusting us with this important task. I thank Dr Swapnil Shah, Convenor for the smooth conduction of the CMEs, all our expert members and speakers for their valuable inputs and the state coordinators for hosting the meetings. Many many thanks to Dr Rochelle Monteiro for editing the newsletter.

I look forward to working with the new EC and Academy for their guidance and support.

EDITORIAL

Dr.Rochelle C Monteiro

I reached for the skies
my branches spread wide
the wind on my face, dreaming on, starry eyed.
I yearned to reach beyond the clouds
stretched myself to the limit,
until suddenly I felt a tug beneath.
The roots that kept me grounded still holding firm at my feet,
reminding me that though I desire wings, roots are what I really need .

As we focus on what's new in this debut issue, we duly acknowledge that advances in any field stem from a firm grasp on the basics.

Our CME's were designed to focus on the new, but also keeping in mind the basics, thereby addressing the root of causation of acne, and aiming at prevention rather than cure. We have covered a wide variety of topics on the same viz. etiology, pathogenesis, biofilms, diet, and management.

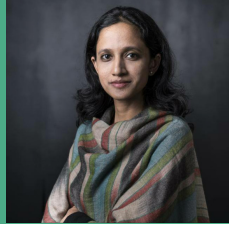
All academics and no (word)play make dull reading! We at the IATF are anything but dull, and hence we have an offbeat Physician's and patient's perspective on acne too. I do hope you enjoy reading as much as I have enjoyed compiling the same.

I cannot conclude without thanking our Co-ordinator,Dr.Niti Khunger & Convener, Dr.Swapnil Shah, for entrusting me with this responsibility and their constant guidance. Also, a big shout out to all the members of IATF for enthusiastically providing the write-ups.

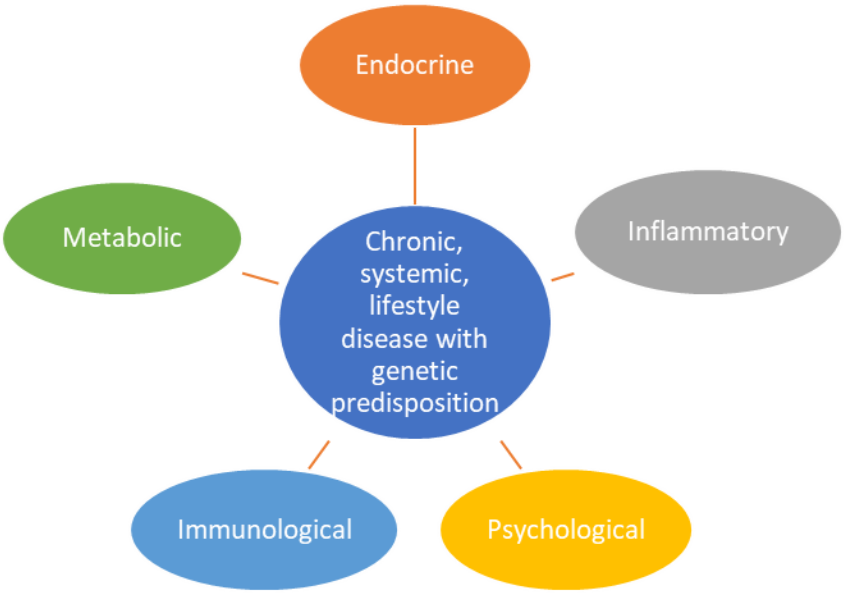
So here, we present to you the most interesting and informative snippets, summarized in our first newsletter with an additional MCQ and crossword section. Because, we would rather have people pick their brains, not their acne!

WHAT'S NEW IN THE ETIOPATHOGENESIS OF ACNE?

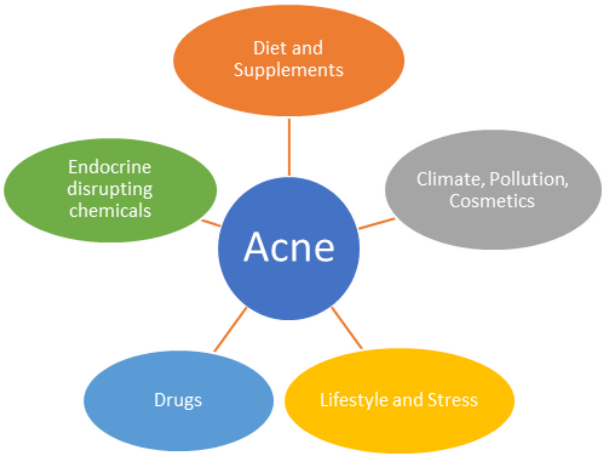
Dr. Sujata Mehta Ambalal



Acne is not just a skin disease.
It is a chronic, systemic, lifestyle disease with a genetic predisposition and has endocrine, metabolic, inflammatory, immunological as well as psychological causes and implications.



Genetic factors: Genes affect the structure and function of pilosebaceous unit and androgen receptors
Non-genetic factors: Exposome- sum of our environmental and occupational exposures from conception onwards



The Comedone Switch: the entry of naïve sebaceous glands into the acne cycle to undergo epidermal rather than sebaceous differentiation under the influence of comedogens.

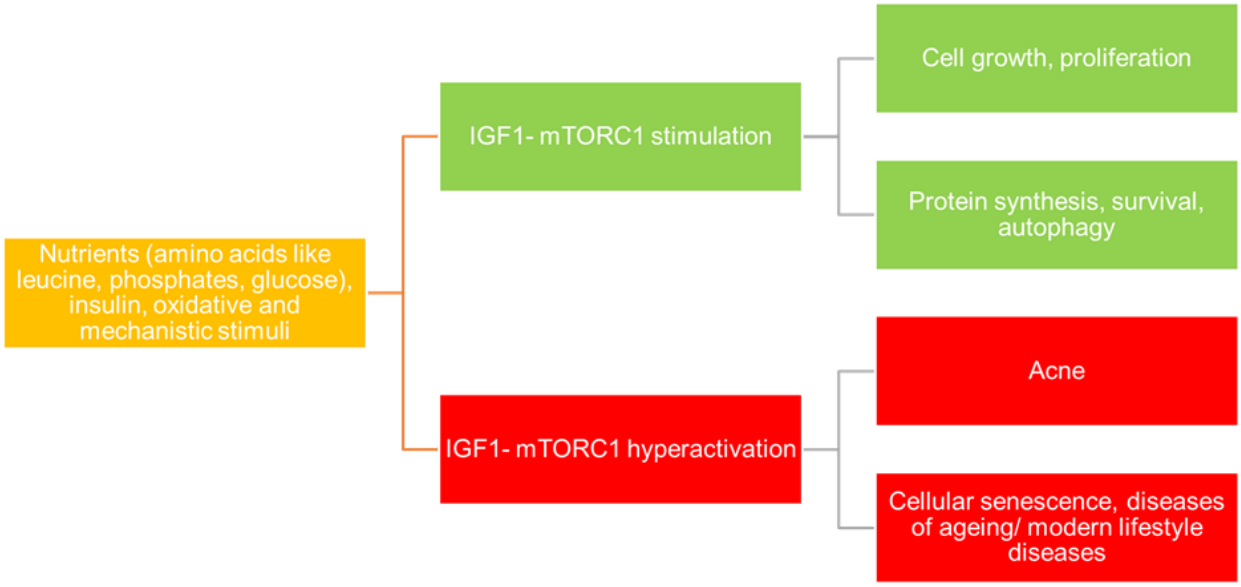
WHAT'S NEW IN THE ETIOPATHOGENESIS OF ACNE?

Dr. Sujata Mehta Ambalal

Biochemical pathway regulating acne: IGF1- mTORC1 pathway

Diseases of civilization and ageing are also mTORC driven (obesity, diabetes, heart disease, neurodegenerative disease and cancer)

Early diet and lifestyle interventions for acne may possibly prevent or delay other lifestyle diseases



Diet and supplements: Certain foods can worsen acne (eg. dairy, high glycemic index foods, vitamin B12)

Dietary factors known to improve acne (eg. Myoinositol, vitamin D, zinc).

Tissue level **hyperinsulinemia** is believed to be a cause of hyperandrogenemia in PCOD. Acne is considered the 'metabolic syndrome' of sebaceous follicles.

Acne patients may have **low vitamin D levels**, cutaneous and gut **dysbiosis**. Some C. acnes strains are more inflammatory, virulent and biofilm forming.

Sebaceous gland is a neuroendocrine organ- 'brain of skin'. Stress is both the cause and effect of acne

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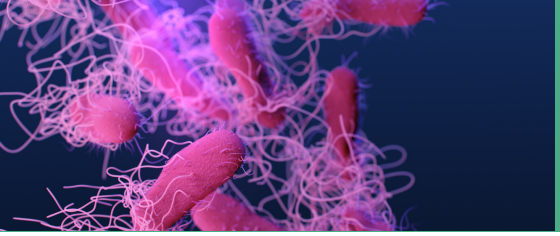
Newer insights on the etiopathogenesis of acne advocate a holistic, diet and lifestyle- based approach to long term management in addition to pharmacotherapy



BIOFILMS IN ACNE

Dr.Abhineetha Hosthota

The biofilm of C. acnes is comprised primarily of:

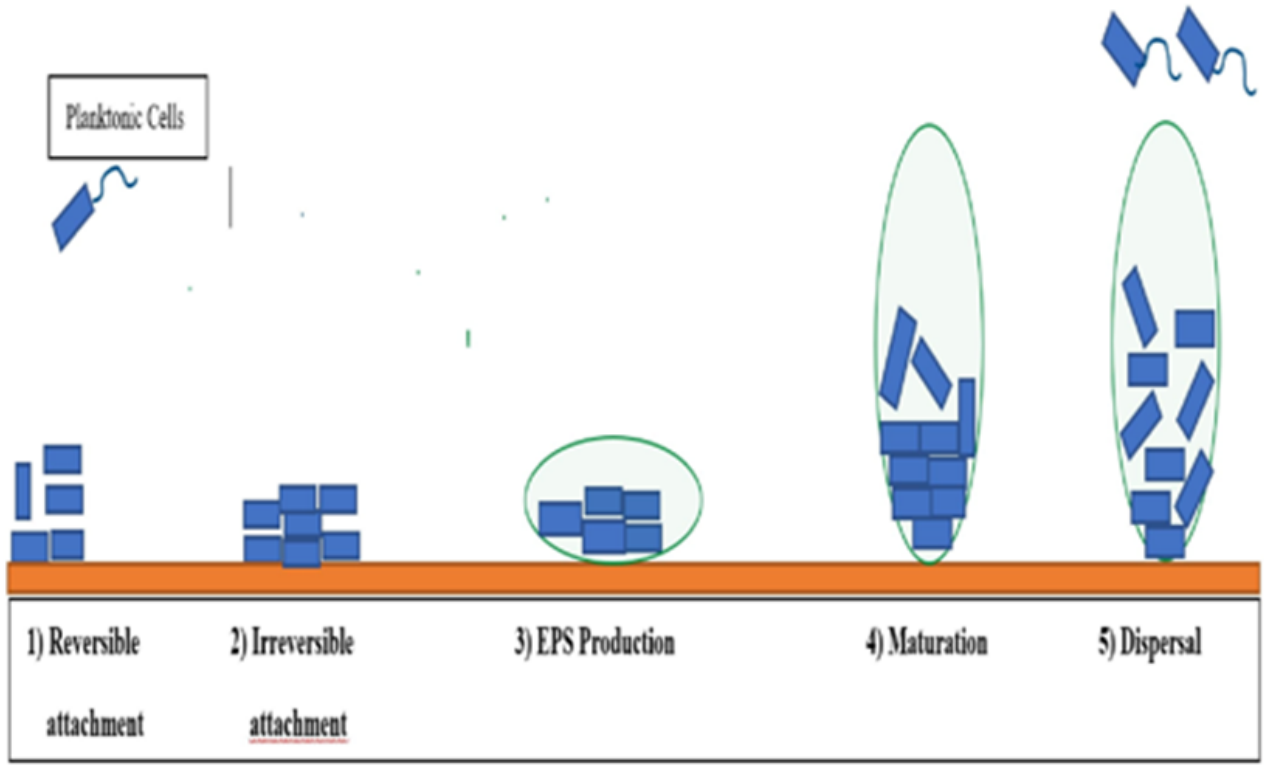
- Glycocalyx polymer: comprises 2/3rd of the mass of the biofilm and acts as a protective barrier

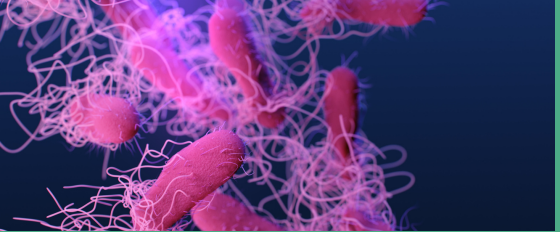
- It consists of polysaccharides, lipids, proteins, and extracellular DNA & up-regulated mRNA expression of CAMP factor 126.

- Enzymes: UDP-n-acetylglucosamine 2 epimerase and glycosyl transferases

- Organisms are embedded in this glycocalyx.

Figure 1: Stages Of Biofilm Production





BIOFILMS IN ACNE

Dr.Abhineetha Hosthota

Role of biofilm in Acne Pathogenesis

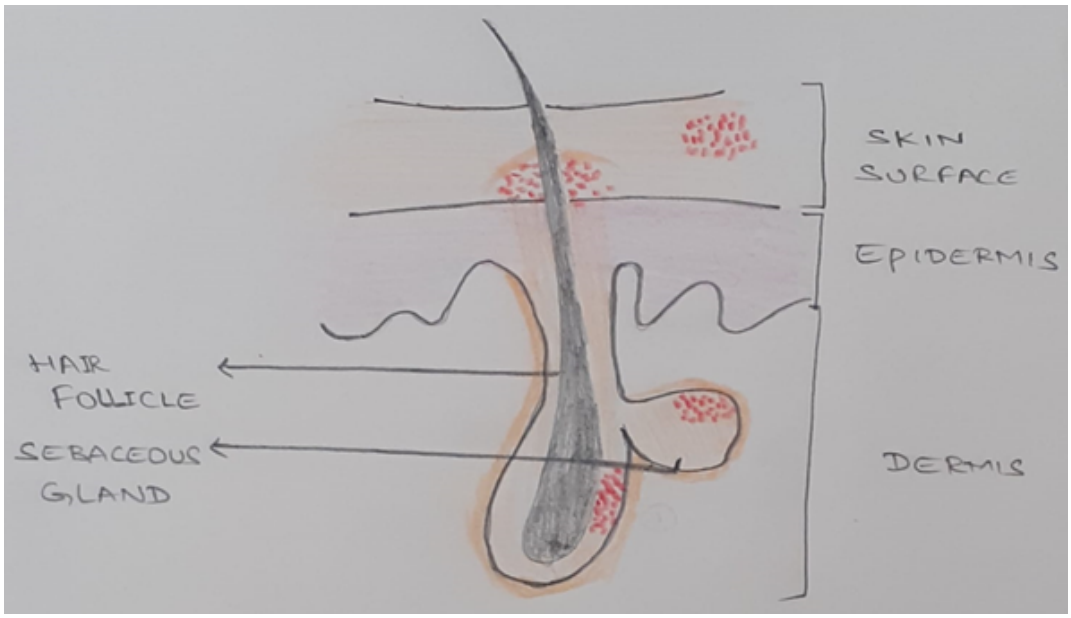
- Autoinducer-2 which acts as a Quorum Sensing molecule.

- Enzymes such as lipases, hyaluronidases and chemotactic factors are secreted in C. acnes biofilm

- Increases free fatty acid concentration availability as a nutrient source for the bacterium

- Biofilm of C. acnes plays a major role in in follicular plugging and cohesiveness which are key factors in the pathogenesis of acne vulgaris.

Four patterns of C. Acnes biofilms:



1. Attachment of the bacterium to the follicle wall
2. Attachment to the hair shaft
3. Spreading over the lumen of the hair follicle
4. Biofilms in the centre of the follicle without any discernible attachment to the follicle wall

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DIET AND ACNE

Dr Pravin Banodkar

The influence of diet on acne may be discussed with respect to three main factors:

- **Keratinocyte proliferation and corneocyte desquamation**
- **Androgen-mediated sebum production**
- **Inflammation**

.

Diets with high Glycemic Index lead to hyper-insulinemia and a resulting cascade of endocrine consequences (increased androgens,increased insulin like growth-factor 1, altered retinoid signaling pathways) which mediate acne pathogenesis

• A low glycemic diet has been shown to be beneficial in patients with acne vulgaris.

• There is a paucity of studies with respect to Indian Dietary habits and their effect on acne.

• The incidence of acne is lower in rural and non-industrialized areas compared to Western populations. It is believed to be a result of differences between glycemic loads in the diets of both populations

DIET AND ACNE

Dr Pravin Banodkar

Prospective observational studies over the past 2 decades have proven links between Diet and Acne as follows:

DIET	MECHANISM OF INFLUENCE
MILK AND MILK PRODUCTS	Milk contains insulin-like growth factor 1 (IGF-1) that influences the pilo-sebaceous unit and triggers acne
OMEGA FATTY ACIDS	Reduce inflammation and help in healing acne lesions
ANTI-OXIDANTS	Reduce inflammation and decrease acne lesions
PROBIOTICS	Reduce inflammation and decrease acne lesions
HIGH GLYCEMIC INDEX DIETS CONTAINING SUGAR	Result in hyper-insulinemia and a resulting endocrine cascade which trigger acne
ZINC-RICH FOODS	Reduce Acne as they reduce inflammation and are bacteriostatic against C.acnes

CLINICAL VARIANTS OF ACNE

Dr.Rochelle C Monteiro

TYPE OF ACNE	AGE/SEX	CLINICAL FEATURES	ASSOCIATION	TREATMENT
Neonatal acne	2weeks-3months	Inflamed papules over nose,cheeks No comedones	Malassezia species	Imidazoles
Infantile acne	3-6 months	Comedones over cheeks and chin	Scarring may occur	Topical: retinoids,benzoyl peroxide Oral: macrolides, isotretinoin
Acne conglobata	Males	Severe form of nodulocystic acne; comedones with discharge	Part of follicular occlusion triad	High dose antibiotics, steroids, surgical drainage
Acne fulminans/ acute febrile ulcerative acne	Adults	severe nodular acne, hemorrhagic crusts,ulceration ,scarring	systemic symptoms Erythema nodosum lytic bone lesion	Systemic steroid oral antibiotics, isotretinion
Acne excoriee des junes filles	Young women	Mild acne, extensive excoriations	Anxiety, depression,OCD ,personality disorder	Antidepressants, psychotherapy
Acne with solid facial edema/ Morbihan disease	Adults	Rare and disfiguring variant	Woody edema of mid third of face erythema	Low dose isotretinoin, steroids, clofazimine, ketotifen. Antibiotics are ineffective
Adult female acne	Females > 25 years	Involves U shaped area of face, chin, mandible	AFAST scale for scoring	Antibiotics, isotretinoin, OCP,s, spironolactone

CLINICAL VARIANTS OF ACNE

Dr.Rochelle C Monteiro

TYPE OF ACNEFORM ERUPTION	AGE/SEX	CLINICAL FEATURES	ASSOCIATION	TREATMENT
Steroid folliculitis	2 weeks after steroid administration, adults, adolescents	Inflamed papules over nose,cheeks No comedones	Monomorphic lesions, face spared usually	Antibiotics, topical retinoids
Occupational acne	Adults,	Large inflammatory lesions covered areas	Industrial compounds- coal tar derivatives, insoluble cutting oil, chlorinated hydrocarbon	Oral retinoids, antibiotics
Acne mechanica	Adults	Repeated physical trauma to the skin due to rubbing	Fiddlers neck Maskne	Benzoyl peroxide, Salicylic acid
Gram negative folliculitis	Patients treated with long standing antibiotics	Sudden worsening of acne lesions	Nil	Gram negative antibiotics, cefalosporins , isotretinoin
Tropical acne	Severe heat folliculitis, furnace worker /military troops	Inflammatory nodules with discharge over trunk buttocks	Secondary infection may ensue	Systemic antibiotics, cool environment
Acne aestivalis	Women 20-30 years old	Papules over shoulder, arms, neck	No comedones	benzoyl peroxide ,tretinoin

ADULT FEMALE ACNE – AN APPROACH TO BIOCHEMICAL ASSESSMENT OF ANDROGEN EXCESS

Dr.Kabir Sardana

Introduction

Clinical manifestations of hyperandrogenism include hirsutism, acne, androgenic alopecia, and virilization. Hirsutism, defined as excessive growth of terminal hair in women in a male-like pattern, is the most commonly used clinical diagnostic criterion of hyperandrogenism. The presence of hirsutism is usually determined by using a standardized scoring system of hair growth and may be seen in up to 80% of patients with hyperandrogenism. Acne and androgenic alopecia are other common androgenic skin changes, and might be observed without hirsutism in some hyperandrogenic women. However, isolated presence of any of these manifestations is not usually considered as a diagnostic criterion for hyperandrogenism. Virilization is a relatively uncommon feature of hyperandrogenism, and its presence often suggests an androgen-producing tumor. A thorough history and a focused clinical examination are extremely helpful in diagnostic evaluation of patients with suspected hyperandrogenism (1)

Our concern is **Adult female acne (AFA) which is acne that is seen beyond 25 years of age and can present either as isolated acne or with hyperandrogenic signs** . While acne per see can be a feature of HA routine hormonal tests may not reveal an underlying abnormality except PCOS . End-organ hypersensitivity is the most plausible explanation and thus justifies the use of antiandrogens in its management. (2)

A recent study found that of the AFA sub types late onset was more common in adult acne patients (56.6%) but the persistent acne subgroup (43.33%) had a younger age at onset, a past history of adolescent acne (51.92%), truncal predilection (44.23%), polycystic ovary syndrome (PCOS) (44.23%), significant presence of irregular menses (40.38%) and hirsutism (57.69%), and increased TT (13.46%), 17-OHP (76.92%), AMH (44.23%), and increased LH/FSH (15.38%) ratio. PCOS was seen more in the persistent acne patients with clinical HA and increased 17-OHP levels .(3)

ADULT FEMALE ACNE – AN APPROACH TO BIOCHEMICAL ASSESSMENT OF ANDROGEN EXCESS

Dr.Kabir Sardana

What constitutes a necessary and sufficient evaluation of Hyperandrogenism?

While each patient's evaluation must be tailored by the history and physical findings, it is important that certain signs like hirsutism which are believed to be a clear cut sign of HA , may not be true in India where there are wide inter-racial variation in hirsutism. Thus this may not represent overt HA, hence a high degree of suspicion is needed for underlying hormonal excess in AFA though a large majority have end organ hypersensitivity to normal levels of androgens.(2,4)

The aim of investigations are two fold

1- To elicit the source of androgens

2- To eliminate the common causes and differentials including PCOS

Tests and their Significance

The major sources of androgens in females is the ovary and adrenal gland, with a definite role of end organ androgens. Cutaneous production of androgens can significantly contribute to the circulating androgen levels . The major androgens in the serum of normo-androgenic women are (in descending order of serum concentration): DHEA-S, DHEA, androstenedione, testosterone, and DHT. Among these circulating androgens, DHEA-S, DHEA, and androstenedione are considered to be weak "pro-hormones" that are converted to the more potent androgens testosterone and DHT. Importantly 3α-androstanediol glucuronide (3a-Adiol G), a DHT metabolite, is a good indicator of peripheral androgen action and reflects 5 alpha-reductase activity. Elevations of androsterone glucuronide have been reported to reflect peripheral androgen action better than 3α-Adiol G. DHEAS represents the adrenal source of androgens. Testosterone levels are usually the best way to start an investigative profile and its levels can predict the possible causes . As Free testosterone levels are erratic due to lack of sensitive tools and its miniscule levels in the blood, various calculated indices are used, one of which is FAI [Free androgen index]. While PCOS is a common cause, in AFA the conventional tool to diagnose it, USG,has a notable drawback .Polycystic ovarian syndrome (PCOS) diagnosis in adult female acne (AFA) can be an issue specially in the population that is commonly seen by dermatologists , as most patients are un married and may not consent for a TV USG which is the Gold standard for diagnosis of PCOS . Also transabdominal USG is not sensitive in obese females (5). A recent study found that AFA with PCOS had significant clinical hyperandrogenism, truncal and adolescent acne, and raised hormones (AMH, TT, FAI, LH, and LH/FSH).(6) The AMH levels were significantly higher in the PCOS group (6.91 ± 3.85 ng/mL) and positively correlated with TT, FAI, 17OHP, LH, and LH/FSH ratio. AMH at >5.1 ng/mL (sensitivity-70.97% and specificity-82.02%) predicted PCOS and correlated with PCOM. Thus AMH (>5.1 ng/mL) is a a sensitive tool to diagnose PCOS (6). Here it is important to understand that this test can have a variation due to the assay used, but as a general rule higher the value beyond 5 more the chances of PCOS (7)

A TSH is a useful test as hypothyroidism can mimic PCOS and this should be ruled out in the work up. While some feel that NCCAH is common in AFA, this is not true in most cases and we do not think 17OHP is needed in the majority of cases of AFA.(2,3)

The values of various tests depend a lot on the laboratory values which do vary between laboratories. It is accepted that tests should be performed on the 5th day of the cycle with a proviso of avoidance of any hormonal medicine for 3 months. A few test have replicable values but it should be noted that a large majority of PCOS cases have increased levels of almost all hormones. A few cut off values that can be used include, Normal levels of total testosterone should not exceed 1.1 ng/ml[54.5ng/dl] , normal levels of DHEA should not exceed 430 /µgdl ,FAI should not exceed 5 and AMH beyond 5 ng/ml indicates PCOM . The interpretation of tests depends on the experience of the clinician and an important adage is to minimize tests to the basic essential.

The test given in the table-1 gives a overview of the various tests for dermatological practice . If androgen excess is not present on examination which is the case in most case of AFA it is reasonable to assess for multiple biochemical tests for androgen excess because total testosterone is not a sensitive biomarker in women. Thus it is recommended that in addition to testosterone additional androgens that need to be assessed include DHEAS and androstenedione concentrations. Any concentrations above the reference range provide evidence of hyperandrogenism.(8)The tests that are listed in the last column of table- 1 will suffice in the initial assessment and as the tests are costly there will be little additional advantage in terms of etiological diagnosis if all are done in the first instance . Also as a generic rule more the tests more complicated is the interpretation

Treatment (9)

The therapy of AFA depends on the major defect noted in the tests and certain specific agents and can be used to modulate the results. The most effective are COCP followed by spironolactone, and flutamide. COCP should ideally be based on drospirenone based combinations. After six months of therapy, COCs are as effective as antibiotics for the treatment and this should be the preferred therapy. Spironolactone is another good option in mild cases and is often combined with COCP

FSH- FOLLICLE STIMULATING HORMONE
LH- LEUTINIZING HORMONE
DHEAS- DEHYDROEPIANDROSTERONE
TSH- THYROID STIMULATING HORMONE
17 OH P- 17 HYDROXY PROGESTERONE
AMH -ANTIMULLERIAN HORMONE
PCOM- POLYCYSTIC OVARIAN MORPHOLOGY
COCP- COMBINED ORAL CONTRACEPTIVE PILLS

ADULT FEMALE ACNE – AN APPROACH TO BIOCHEMICAL ASSESSMENT OF ANDROGEN EXCESS

Dr.Kabir Sardana

Table 1

ETIOLOGY	INVESTIGATI-ONS	PRACTICAL-TESTS
Ovary	- FSH/LH ratio Androstenedione -USG/ AMH	-AMH (sensitive & specific for PCOS) -USG (for tumors)
Adrenal	17 OH- P/ DHEAS	DHEAS
Hyperandrogenemia (HA)	Total testosterone/ free T-3 alpha diol	-Free androgen index -Total testosterone
Tumors Differential Mimickers	- PRL/TSH/Testosterone -Insulin	TSH

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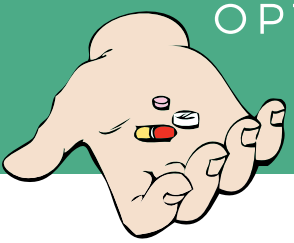


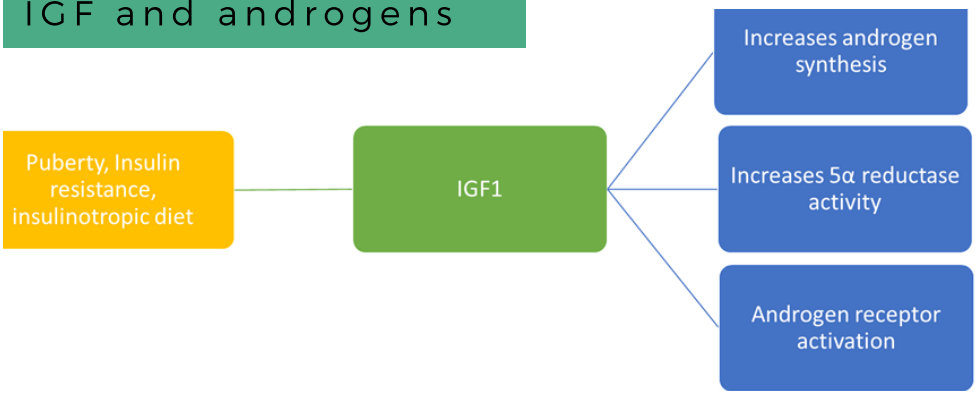
OPTIMIZING USE OF ANTIANDROGENS IN ACNE

Dr. Sujata Mehta Ambalal

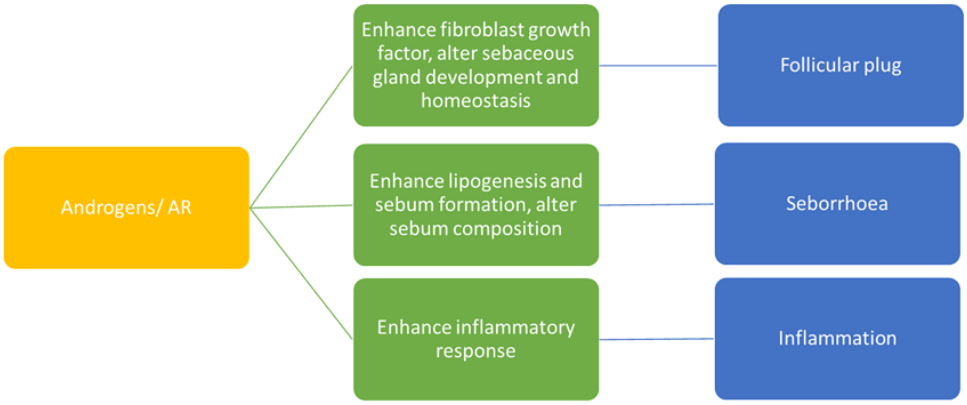
Fast facts- skin and androgens

- The pilosebaceous unit of the skin can synthesize androgens de novo from cholesterol or by local conversion of weak androgens to potent ones
- Testosterone converted to more potent DHT by 5 α reductase found in sebaceous glands and other cutaneous structures
- Adrenal androgens are weak androgens
- Androgen activity is regulated by IGF (Insulin like growth factor)

IGF and androgens



Androgens and acne

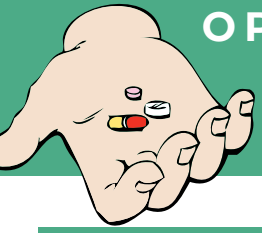


BOX 1-NATURAL ANTIANDROGENS (MAY ALSO BE PHYTOESTROGENS)

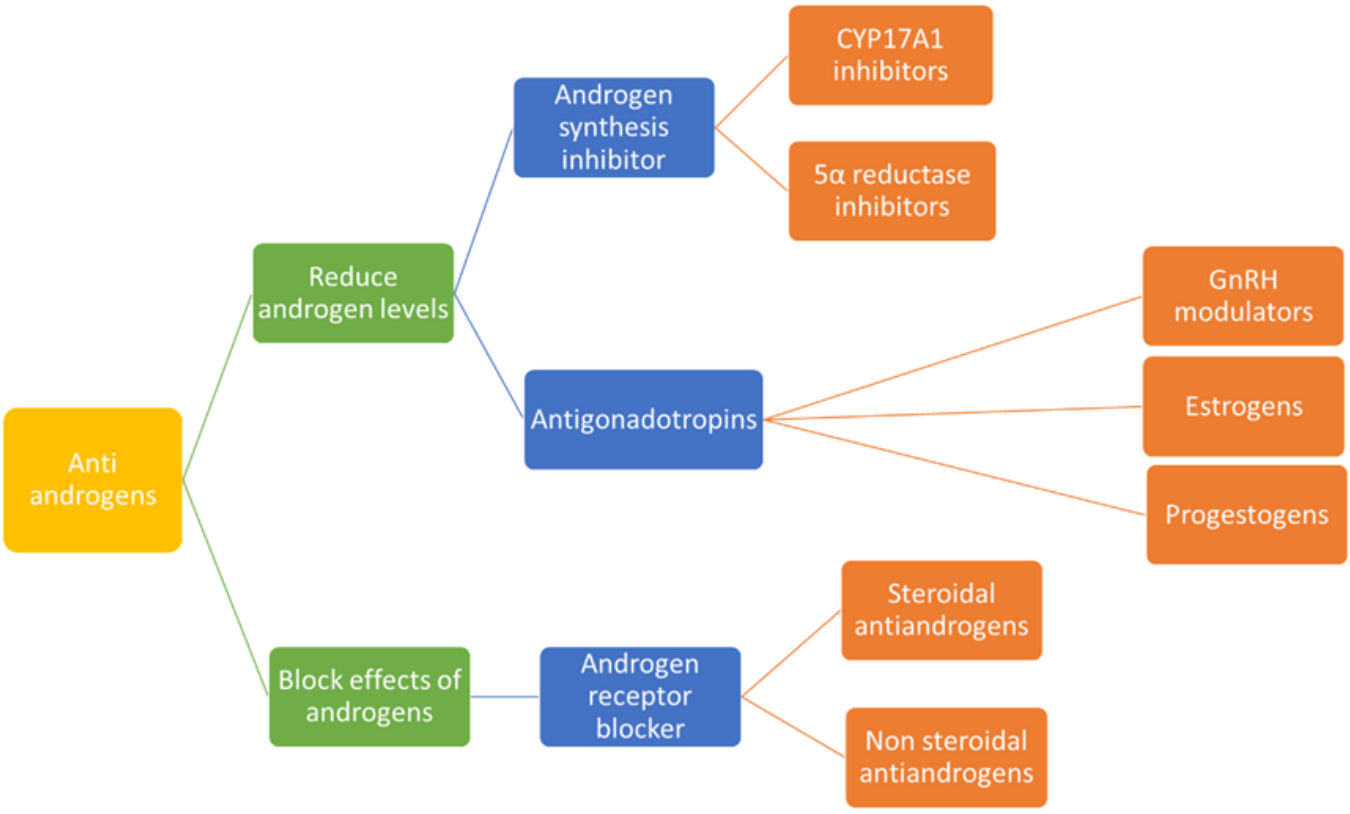
Soy
Mint
Licorice (yasthimadhu)
Flaxseed
Nuts
Fish
Saw Palmetto
Green tea
Zinc
Azelaic acid
Medium chain fatty acids (eg. coconut oil)
Curcumin (turmeric)
Black cohosh
Chaste tree
Japanese Reishi mushrooms

Antiandrogens commonly used for acne

Combined Oral Contraceptive (COC) pills with antiandrogenic progesterone (cyproterone acetate, drospirenone)
Cyproterone acetate
Drospirenone
Spironolactone
Low dose glucocorticoids
Flutamide, finasteride and dutasteride
Metformin, myoinositol, isotretinoin, ketoconazole and androgens
Natural antiandrogens (may also be phytoestrogens) * BOX-1



Types of antiandrogens



Practical applications of antiandrogens for acne in females

- Clinical or laboratory markers of hyperandrogenism and PCO (COC / Spironolactone)
- Patient wants contraception (COC)
- Irregular menstrual cycle (COC)
- Premenstrual flare (COC/ Spironolactone)
- Need anti androgen but hypertensive, complaints of bloating, family history of hormone dependent cancers like breast cancer, thrombosis risk (Spironolactone)
- Add on for isotretinoin or COC (Spironolactone)
- Post menopausal females (esradiol + drospirenone or spironolactone)

CHEMICAL PEELS IN ACTIVE ACNE

Dr.Niti Khunger

Procedural treatment is playing a greater role in the management of acne. Chemical peeling is a good adjuvant in active acne. Salicylic acid, mandelic acid, retinoic acid (yellow peel), glycolic acid, TCA , Jessners peel & combination peels are useful peels for acne. Peeling the skin leads to many benefits (Box 1).

The choice of peels depends on the severity of acne.

- ***Very superficial peel – open comedones.***
- ***Superficial peel – deep seated closed comedones***
- ***Medium peel –superficial acne scars***
- ***Deep peel – severe acne scars. Phenol peels are not very safe in darker skins.***

BOX 1:
BENEFITS OF CHEMICAL PEELS IN ACNE

Peeling the skin leads to:

- Reduced comedones
- Reduced post acne pigmentation
- Reduced oiliness
- Decrease in open pores
- Improvement of superficial scars.

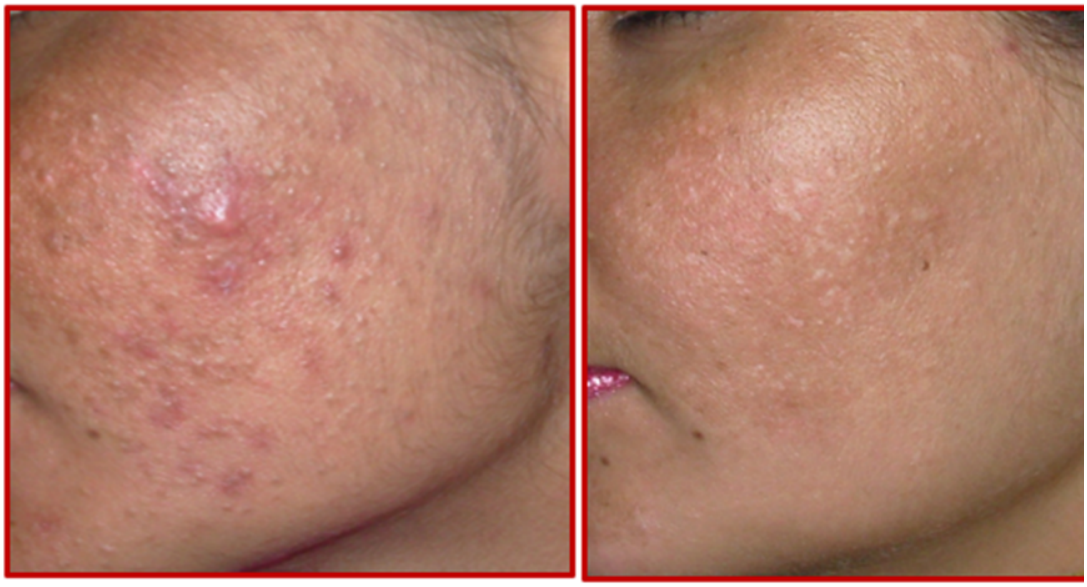
Chemical peels in acne act as adjuvants to topical treatment and can hasten response to treatment and reduce complications such as prolonged hyperpigmentation. The indications are given in Box 2.

BOX 2:
INDICATIONS OF CHEMICAL PEELS IN ACNE

- Comedonal acne
- Papular & pustular acne
- Post-acne pigmentation
- Acne excoriee
- Acne with melasma
- Acne cosmetica
- Icepick scars
- Superficial mild post acne scarring

CHEMICAL PEELS IN ACTIVE ACNE

Dr.Niti Khunger



Acne with melasma, Type IV, sensitive skin,
Mandelic acid 40% gel peel after 4 sessions

Chemical peels can be combined with comedone extraction to get a faster response. They can also be combined with pulsed dye laser for persistent erythema.

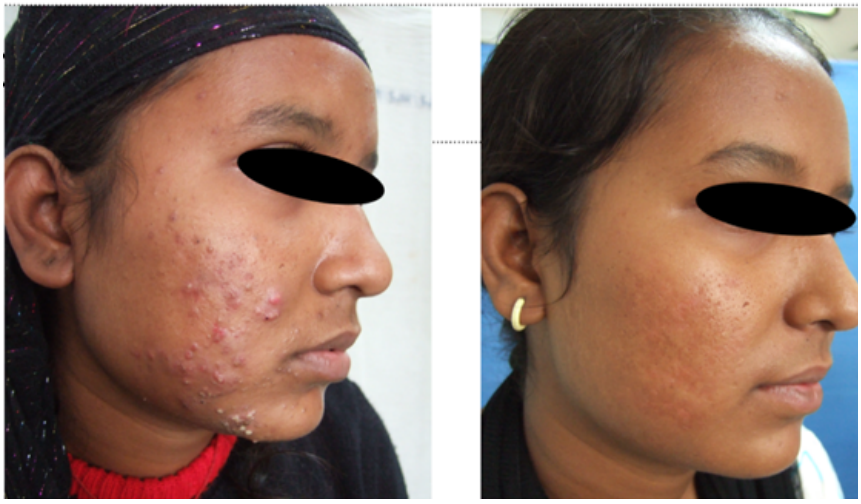
Adverse effects include irritation, dryness, erythema, excessive scaling and acne flare. Post inflammatory hyperpigmentation is the main complication of chemical peeling in darker skin.

Adequate priming with sunscreens, skin lightening agents and topical retinoids along with sun protection can prevent this.

The biggest advantage of chemical peels are that they can avoid adverse effects of systemic treatment and can hasten response in all forms of acne.

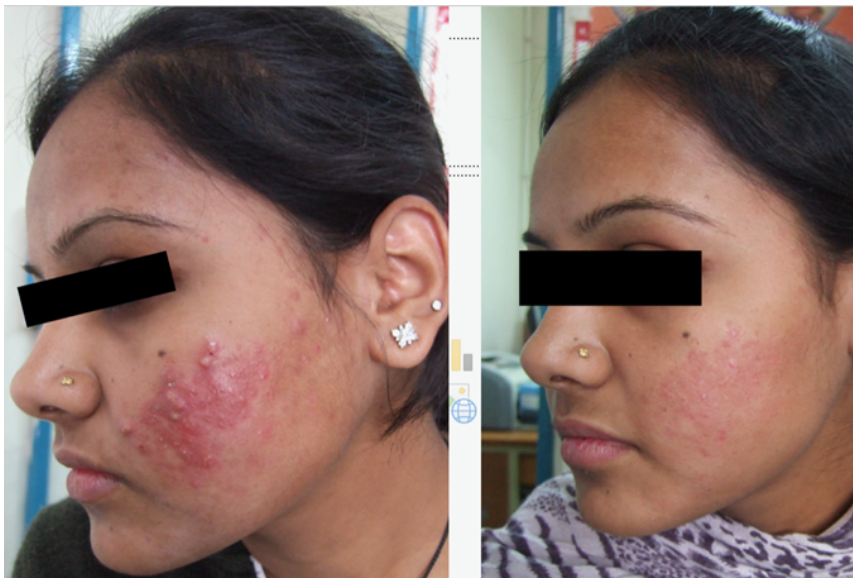
PANEL PEARLS- TIPS & TRICKS

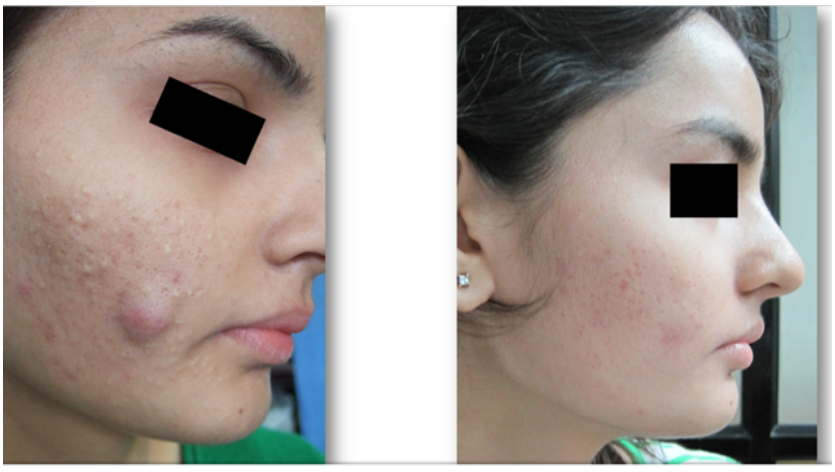
Dr.Rajat Kandhari



- Topical treatment,oral antibiotics- Minocycline
- Oral contraceptives (Drospirenone+ ethinyl estradiol
- Metformin 500 mg twice daily, lifestyle modifications

- Topical & oral antibiotics (Cephalexin 500mg twice daily),
- Anti-inflammatory medication, Oral steroid 12mg one stat,
- Beta-hydroxy acid peel once the initial inflammation subsides

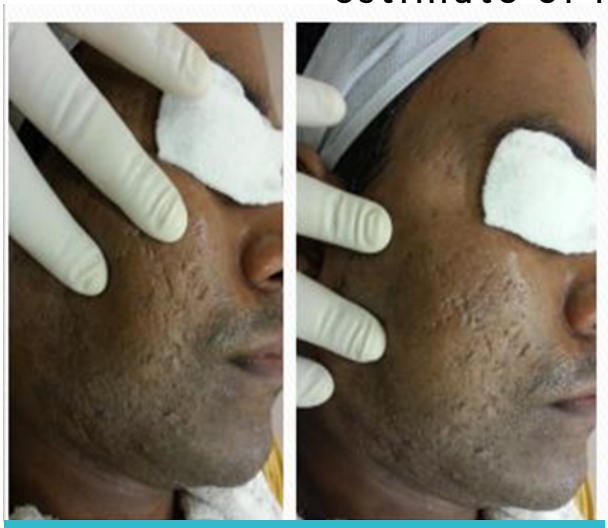




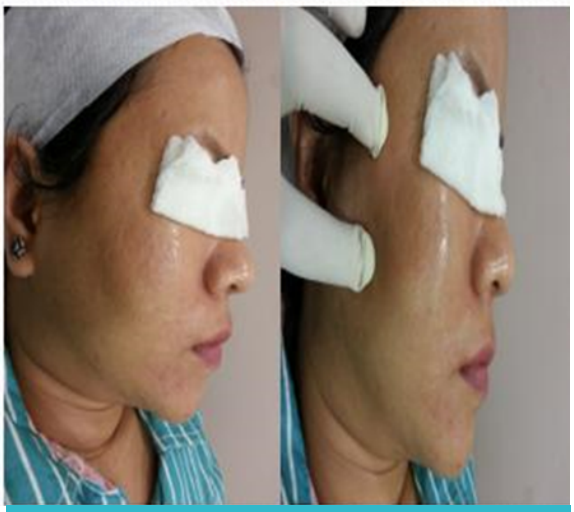
Closed comedonal acne seems to be predictive of isotretinoin resistance- surgical cure of the macrocomedones performed prior to isotretinoin will avoid explosive reactions.
There is currently no consensus/ guideline which suggests the dose required for flare reduction

Dr.Pravin Banodkar

Stretch test: Stretching the skin to check for the level of improvement. This can be shown to the patient to give an estimate of improvement

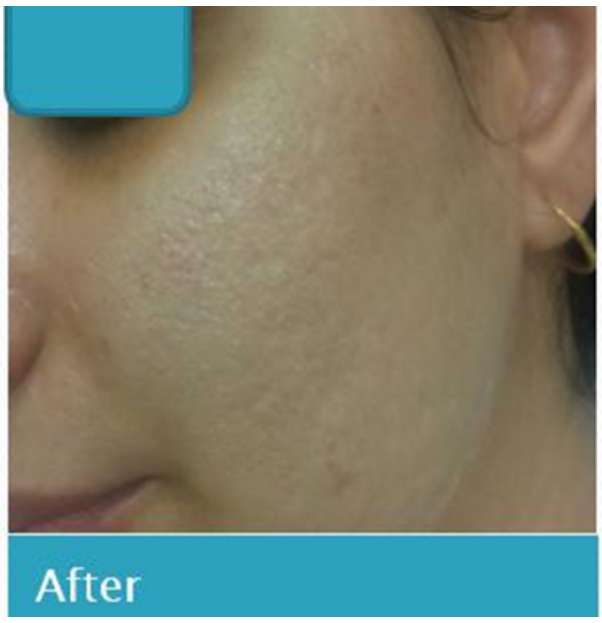


Severe scars: Not much change on stretching



Moderate scars: Level of improvement can be shown as an estimate to the patient for counselling

Multi modality approach for acne scars works better than singe modality treatments



FROM THE PHYSICIANS DESK, PART-1 -*ACNE IS NOT JUST A SIMPLE SKIN DISEASE - 4 STEPS TO SUCCESSFUL TREATMENT*

Dr Niti Khunger

Acne, the bane of teenage years is now increasingly seen in adults and children. It is no longer a simple skin disease. It is a chronic inflammation of the pilosebaceous follicle and leads to a great amount of psychosocial distress in the patient. A physician may not realise the emotional upheaval even a single pimple can cause and that too just before important events. What is required as a physician is not only a clinical evaluation of acne and associated systemic disorders, but a holistic approach to treatment.

Step 1

Evaluate the type, severity and extent of acne. Check for etiological and aggravating factors, particularly drugs, steroids and cosmetics.

Step 2

Look for systemic associations, especially of hyperandrogenism (hirsutism, patterned alopecia) and metabolic syndrome (obesity, acanthosis nigricans, diabetes, hypertension, lipid abnormalities). In young girls and women screen for polycystic ovarian syndrome. Rule out other hormonal disorders like thyroid dysfunction, adrenal hyperplasia, hyperprolactinemia etc.

Step 3

Initiate treatment according to severity of acne. Explain that treatment is prolonged, side effects of treatment can occur and how to deal with them. Emphasize that adherence is important. Allay anxieties and stress. Discuss nutrition, diet, cosmetics, sunscreens, face washes, moisturisers etc.

Step 4

Acne takes time to improve, scars can persist, hence maintenance treatment is important. Discuss treatment of acne scars and the various options available. Give a realistic picture of timelines and degree of improvement expected.

HOW I DEALT WITH A DIFFICULT PATIENT

Ms S was a 27 year old health worker with recurrent inflammatory acne since 12 years. She had initially taken multiple courses of systemic antibiotics, with temporary relief. At the age of 19 years she was diagnosed with polycystic ovarian syndrome and was prescribed oral contraceptives along with lifestyle modification of diet and exercise. After 6 months she stopped OCP because of side effects. She had previously taken a course of isotretinoin for 3 months, again with temporary relief. She had severe stress because of acne and felt it was the cause of her poor social life and difficulty in marriage.

On evaluation, she had grade 3 acne, PCOS and vitamin D deficiency. After a 6 week course of doxycycline, diclofenac for a week, Vitamin D along with topical adapalene, glycolic acid, salicylic acid she improved. She was started on myoinisitol, antioxidants and sequential chemical peeling with salicylic acid 20% and TCA 15%.

Her skin has improved, her anxiety has diminished greatly and she is back to regaining her normal skin and self. Her trust in me and complete faith in treatment helped us both on the difficult path.
In conclusion, a successful doctor is concerned not only about treatment of acne, but also the emotional feelings and experiences behind the disease. Hand holding is important in a patient's moments of anxiety and doubts. Effective communication is the key.

Hand holding is important in a patient's moments of anxiety and doubts. Effective communication is the key.

FROM THE PHYSICIAN'S DESK, PART 2-*WHAT ACNE TAUGHT ME*

Dr.Rochelle C Monteiro

As a bright-eyed fresh MD in Dermatology, I would look forward to diagnose and treat rare, exciting cases in our busy OPD . The thrill of identifying a syndrome or rare condition and the usual process of trying to publish the same would be the only highlight in my otherwise run-of-the-mill day. The routine cases of acne, tinea, eczemas would bore me to no end and every prescription would be monotonous, needing too little thought and effort. That was until I came across this young lady deeply troubled by her acne, She had tried multiple home remedies, over the counter meds and prescriptions, to no avail.

Acne would continue to raise its ugly head despite trying it all. Since she had run out of options, and considering multiple failed antibiotic regimens, the next logical step was to start her on isotretinoin after explaining the screening tests, precautions and side effects. She was back a few days later with a flare up, surprisingly calm, saying, “Doc, you said it might flare up, and it did, and like you advised, I did not stop the meds” I was astonished at how meticulously she had stuck to the advice we gave her, and realized what a deep impact our words can actually have on a consultation, however briefly they may last.

This time around, I listened more to her as she explained about the physical and emotional handicap acne has caused in her life. How the angry red bump is all she sees when she looks at herself in the mirror, how much she wishes it would all go away, how it stresses her out to no end, that she avoids social interactions and locks herself up in her hostel room and binge eats during the periods of flare –up. And as I listened, I realized that all the solutions to her problem were in her history,I was too busy to listen to the first time around.

FROM THE PHYSICIAN'S DESK, PART 2- *WHAT ACNE TAUGHT ME*

Dr.Rochelle C Monteiro

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This time, however I was determined not to err. I explained to her the impact stress, diet and lifestyle habits can have on acne. How her binge eating junk foods, and stress were like a vicious cycle, trapping her within the visage of acne. I explained the need to stick to a prescribed regimen, regular cleansing of the face, usage of moisturisers, sunscreens , and avoiding habits which are detrimental to acne viz. touching the face, picking the lesions. She did very well on treatment, with almost full clearance in 3-4 months , and was then advised on scar treatment modalities to which she religiously adheres.

The word doctor is derived from “Docco” in latin which means to teach, but it is our patients who teach us more than the standard textbooks or prescribed journals. Indeed life’s true lessons are more from experience in the long run. Our 3 year long Postgraduate courses are designed to help us identify signs, symptoms, differentials and prescribe the latest modes of therapy. What we do not learn are empathy, the art of listening , and counselling skills. In our vast curriculum, acne may not be a very interesting diagnosis, and sometimes we barely give heed to the patients’ needs, but to an acne patient every red bump developing on their face sets back their confidence a hundred-fold. Acne may pathologically involve only the superficial layers of skin, but its emotional effects are far deeper and devastating . A little attention, empathy and treating each patient with acne as an individual entity with separate needs rather than a common prescription, will go a long way in alleviating their suffering.

Acne may pathologically involve only the superficial layers of skin, but its emotional effects are far deeper and devastating

Dermatology as a speciality has very few conditions for which we can provide complete and effective resolution, and fortunately acne is one among them. The joy of providing complete cure is unparalled. She now visits me with a smile on her face each time, and I listen to her a bit longer at every visit ,each time learning more and growing more.

STEPPING OUTSIDE,FINDING MY PLACE -A PATIENT'S EXPERIENCE OF ACNE

-Dr Monisha Madhumita,PG resident

"The answer would be no. I couldn't go out looking like that. I wouldn't step outside my home for days. I think of the many experiences I've missed out on and relationships I've lost because I thought my skin looked too bad to be seen. It can get incredibly lonely, living inside this skin." He looks at me and goes on, "Acne was more than a skin condition to me, it was like a life sentence that I thought I couldn't get out of."

Our patient is a 21-year-old man, S, studying to be an architect. He studies the performance and beauty of architectural structures. He says, "Functionality and aesthetics define the existence of architectural wonders. Coincidentally, the role of the skin also derives meaning at this intersection."

Popular messaging around skin health is centered on flawless, smooth, and supple skin. Like a true Gen-Zer, he didn't shy away from skin care for men. As an avid consumer of social media, he tried everything under the sun that the "skinfluencers" advised. This involved innumerable diets, home remedies and expensive skin care products. He often quips, "The only thing I didn't put on my skin was salad dressing, everything else was fair game."

Finally, at the insistence of a friend, he found his way to us, at the dermatology OPD. One of the first questions he asked us, with his head down, "Do men even get acne? Am I abnormal?" We informed him that indeed men get acne, often more severe than in women.

STEPPING OUTSIDE,FINDING MY PLACE -A PATIENT'S EXPERIENCE OF ACNE

-Dr Monisha Madhumita,PG resident

Our journey began with clearing several misconceptions about acne, why it occurs and how to treat it. There was a lot of unpacking to do, in terms of the shame surrounding acne and embracing the long process of acne treatment with patience. Some visits were filled with excitement at the progress, and he would leave with a smile. For some visits, there was disappointment that the acne hasn't cleared as fast as they show in "acne-popper"- esque commercials. Still, he persisted. He was compliant with his medications, regular at follow-up and he promised to never pop his pimples. The results were encouraging.

"It is a transformative journey, I started making positive strides not just for clearer skin but to feel healthy inside out. Now, I eat clean (more times than not), I've made my water bottle and sunscreen, my best friends and I trust my dermatologist." S's acne is steadily improving, and the flares are more infrequent.

More so, his perspective on acne has evolved. "If I had to go back in time, I would be kinder to myself, there's a lot of awareness now about #acne positivity. I would advise my younger self to seek treatment with a certified dermatologist sooner because it's a medical condition. Honestly, Instagram isn't a reliable source of medical information. I finally realise that my skin isn't a source of shame, I'm feeling more comfortable in it. Now, I'm the one making plans to catch up with my friends. This weekend, we're going bowling, can you believe it?"

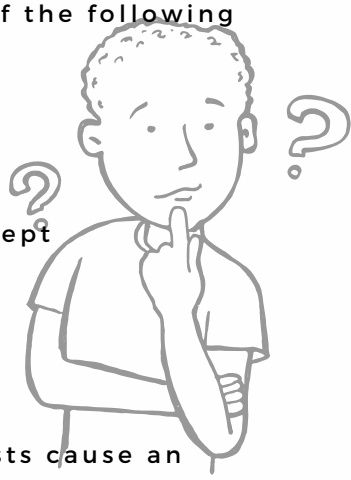
I finally realise that my skin isn't a source of shame, I'm feeling more comfortable in it.

QUIZ & CROSSWORD

Dr.Rochelle C Monteiro

1. All of the following are newer topical therapies for acne except
a) Clascoterone
b) Trifarotene
c) Minocycline
d) Sarecycline

2. Cutibacterium acnes activates the innate immunity via the expression of the following except
a) PARs-Protease activated receptor
b) CAMP – Cyclic adenosine monophosphate
c) TLRs -Toll like receptors
d) TNF-α

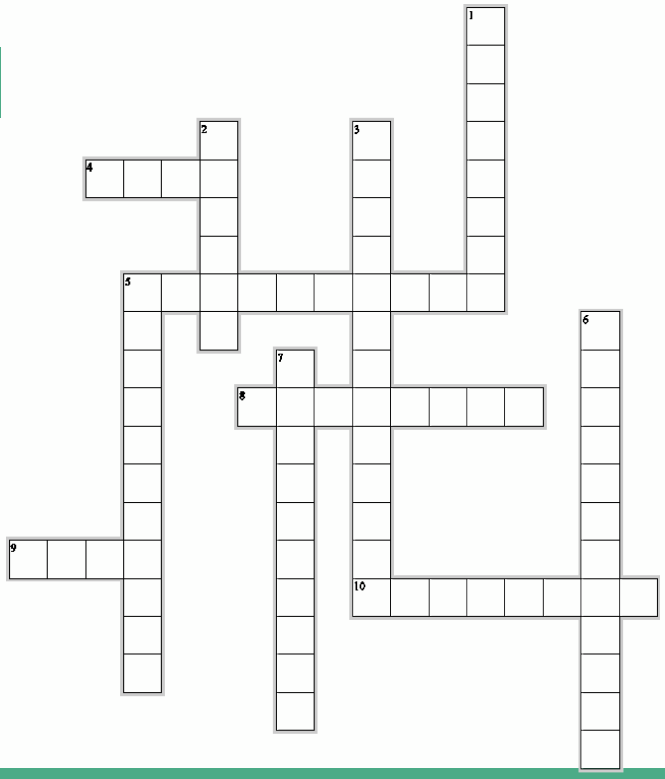


3. The following are true with respect to Cutibacterium acnes biofilms except
a) CAMP 1 factor causes inflammatory reaction in Keratinocytes
b) DBSP helps in attachment of C.acnes and improves its survival capacity
c) Bacterial lipases are upregulated in biofilms
d) Decanediol helps in formation of biofilms

4. The following PPAR (peroxisome proliferator activated receptor) agonists cause an increase in sebum production except
a) Thiazolidinediones
b) Fenofibrate
c) Rosiglitazone
d) Gemfibrozil

5. All the following statements are true about Sarecycline Hcl except,
a) Is indicated in inflammatory, non –nodular, moderate to severe acne
b) Has good activity against C.acnes
c) Has a low propensity to resistance
d) Equally potent against gut associated aerobic gram negative bacilli and anaerobic bacteria

AC(NE)CROSS AND BELOW



Across

4. Autosomal dominant anti-inflammatory disorder associated with acne
5. Severe type of nodulocystic acne
8. EGFR inhibitor causing acne
9. Common endocrine disorder associated with acne
10. Acne with solid facial edema

Down

1. Type of acne named after an island in Spain
2. Acne seen in Covid times
3. New nomenclature of the bacteria causing acne
5. Topical non-psychoactive anti-inflammatory cannabinoid in acne treatment
6. Treatment of neonatal acne
7. Novel antimicrobial which acts against acne biofilms

SOLUTIONS TO QUIZ AND CROSSWORD:

MCQ solution:

1.d.
Sarecycline Hydrochloride is an oral narrow spectrum tetracycline for acne.
Trifarotene is a fourth generation topical retinoid
Clascoterone 1% cream is a novel topical androgen receptor inhibitor
Minocycline foam 4 % has been approved by the US FDA for acne

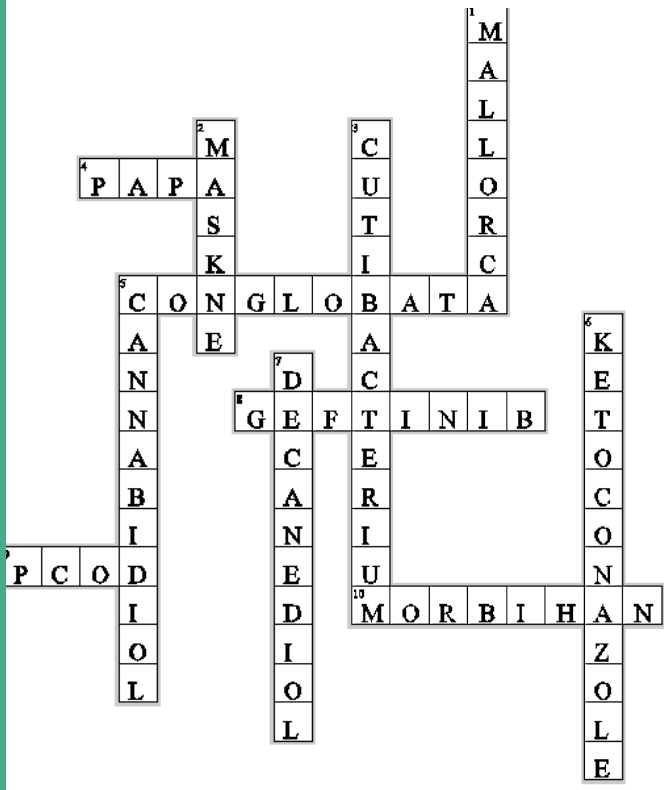
2. b
CAMP- Christie Atkins Munch Peterson 1 factor is responsible for inflammation in acne.

3.d.
Decanediol is an antimicrobial which reduces mature biofilm mass and inhibits biofilm formation in a dose dependent manner.
CAMP- Christie Atkins Munch Peterson 1 factor , DBSP – Dermatan sulphate binding protein

4 c.
Molecular research has demonstrated the lipogenic role of the peroxisome proliferator activated receptor (PPAR) subfamily in sebocytes. Drugs like fibrates (PPAR-α agonist) and thiazolidinediones (PPAR-ɣ agonist) have shown a direct increase in sebum production. However the PPAR-ɣ agonist rosiglitazone has an anti apoptotic effect on sebocytes thereby inhibiting sebum secretion.

5.d.
Sarecycline is less potent against aerobic gram negative bacilli and anaerobic bacteria associated with endogenous intestinal microbial flora thus it has less chances of off target side effects and low propensity for resistance.

Crossword solution:



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