IADVL

IADVL SIG Dermatosurgery (IADVL Academy) Newsletter

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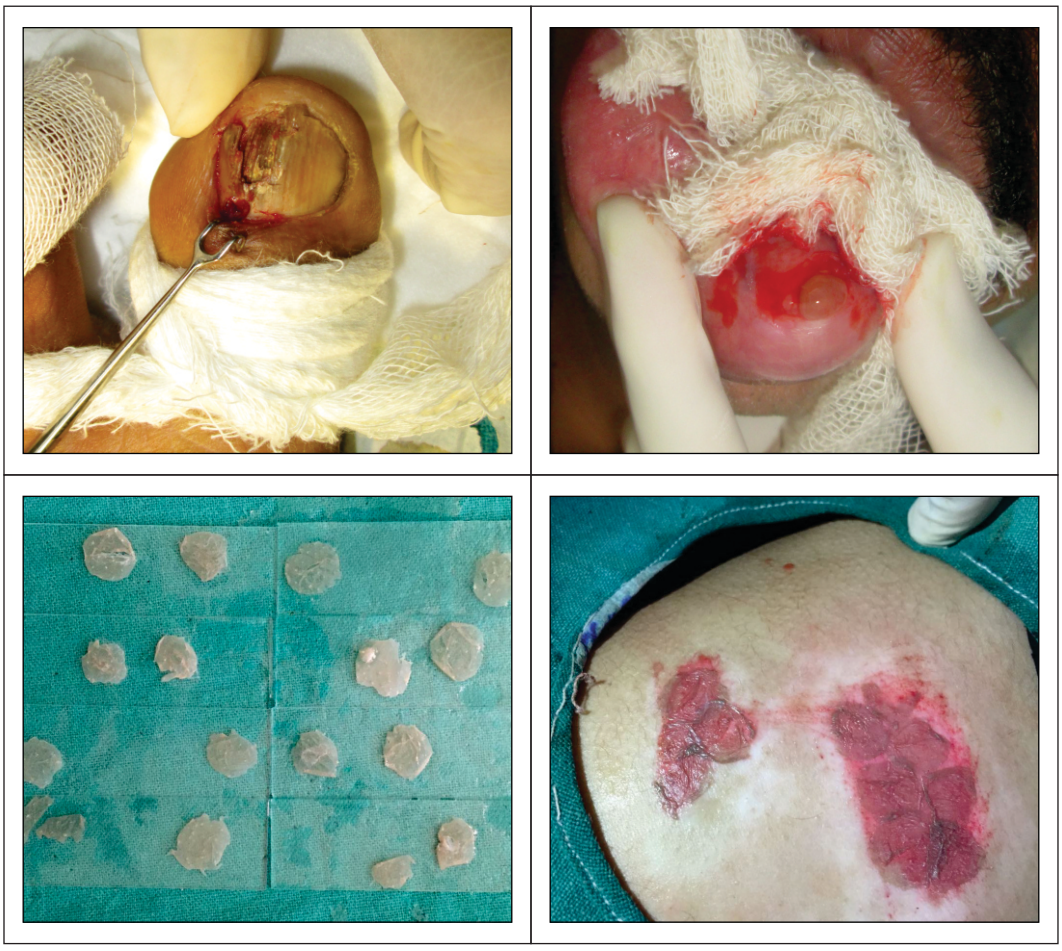

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Welcome Note!

Dear IADVLites,

We are living in the times of a knowledge explosion! Among these, dermatosurgery is an ever-expanding and limitless field which encompasses procedures ranging from simple excisions to more complex cosmetic procedures. Various skin rejuvenation techniques, surgical modalities and hair restoration surgeries have provided new dimensions to this ever magnetic field of dermatosurgery. The persistent obsession among people nowadays, to look younger has resulted in a surge in the dermatosurgical procedures.

It was Charles Darwin who said that "Ignorance more frequently begets confidence than does knowledge: it is those who know little, and not those who know much, who so positively assert, that this or that problem will never be solved by science". This applies truly to the dermatologists and the subject of dermatosurgery!

The scenario in dermatosurgery has changed staggeringly and expanded exponentially with resulting better and better outcomes. A wise dermatologist is the one who adapts himself to this change, as water shapes itself to the vessel that it is contained in.

The concepts of skin rejuvenation by the use of various chemical substances have been in practice since early ages. Modern dermatosurgery has effectively adapted them to the new world. India: the land of Sushruta, who performed exemplary dermatosurgical procedures centuries ago; still remains at the forefront in the field of dermatosurgery including vitiligo surgery. IADVL has recognised and nurtured this important field through various efforts, over the years. Injectable procedures in the form of Botulinum toxin, dermal fillers soft tissue augmentation with fat transfer etc have fulfilled the dreams of many to look radiant and youthful. Hair loss can be traumatizing in our society that perceives hair as a sign of youthfulness, vigour and success. Various hair restoration techniques have helped many to regain self-esteem and confidence in today's society

However, at the same time, these new procedures have even given rise to threats in the form of new complications and medico-legal issues. In today's busy life, people seeking aesthetic betterment, expect and prefer instant outcome rather than multiple visits. In view of patients' expectations, a careful adherence to ethical and legal issues pertaining to dermatosurgery form the foundation of a productive dermatosurgical practice.

At the helm of IADVL's Special Interest Group on Dermatosurgery, we assure you that we (along with our team) have been putting our best effort to take dermatosurgery to newer heights. In this direction, we welcome you all to this 1st edition of our biannual dermatosurgery newsletter of IADVL-SIG dermatosurgery. During our tenure we have already conducted 5 dermatosurgery workshops along the length (Gurugram to Mysore) and breadth (Udaipur to Cuttack) of the country. Please enjoy the brief reports pertaining to these futuristic workshops in this issue. Other than these, the SIG has prepared consent forms for common dermatosurgical procedures which are available for download and use in your clinics.

The IADVL and IADVL Academy remain committed to adding value to the practice of dermatology in our country, by helping all fellow dermatologists upgrade their skills and offer platforms for free exchange of ideas and techniques. We, at the SIG-Dermatosurgery mould our actions to suit this purpose. We are very thankful to the IADVL and IADVL Academy for giving us this opportunity to work and freedom to express ideas to add a little shine to this already brilliant field.

Hoping to learn from each other through continued interaction! Please share your views, opinions or contributions which we can bring out in the future issues.

Happy Sculpting, Happy Suturing and Happy Learning!

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Report of IADVL Torrent Dermatosurgery Workshop

Gurugram, 7th January, 2018

IADVL Torrent Dermatosurgery Workshop was conducted on the 7th of January, 2018 from 9am to 4pm at Medanta-the Medicity Hospital; Gurugram (Haryana). It was jointly organized by IADVL Academy, IADVL-SIG, Dermatosurgery and IADVL Delhi State Branch The Organising Chairperson, Dr Gurvinder Banga and Organising Secretary, Dr Sheilly Kapoor ensured all logistic support.

It was a pre -recorded video workshop focusing on commonly performed dermatosurgery procedures. The workshop was inaugurated by Dr. A.K. Dubey, Medical Superintendent, Medanta Hospital, Gurugram. Both the Coordinator and Convener SIG Dermatosurgery participated as Faculty during the proceedings of the workshop.

Various topics including radiofrequency surgery, suture techniques, platelet rich plasma, hair transplant techniques, nail biopsy techniques; vitiligo surgeries etc. were discussed in detail and demonstrated through educational videos. This was done by eminent National and Local Faculty including Dermatologists, Anaesthesiologists, Plastic Surgeons, Hair transplant surgeons etc.

There was an interesting session on medico legal implications in dermatosurgery dealt with in detail by Dr Seema Singhal, a practicing advocate specializing in medico legal cases only. The eminent faculty was drawn from Delhi - NCR, Ambala and Mumbai.

Key learning points: The medicolegal expert Dr Seema, outlined the various protective measures and made audience aware about previous representative cases. Autologous fat grafting was highlighted as a simple cost effective filling technique for large areas of volume loss like large scars, morphea, post- panniculitic scars. TCA CROSS for acne scars is a simple procedure which can be done in all types of scars and in minimum resource settings too.

The Workshop was attended by more than 90 delegates and was well appreciated, especially by resident doctors, for its lucid style of presentation and ample time for discussion. The workshop concluded successfully at 4pm.

***Dr Sheilly Kapoor**, Organising Secretary*

Report of IADVL Torrent Dermatosurgery Workshop

Mysuru, 11th February, 2018

The IADVL Torrent Dermatosurgery workshop 2018, for the south zone, was conducted by Department of Dermatology, JSS Medical College, Mysuru on 11th February 2018. Around 110 delegates attended the workshop.

The workshop started with sessions on basic set up of a minor OT by Dr Omprakash, Consultant Dermatologist, Vikram Hospital, Mysuru, followed by video demonstration of Regional blocks and Suturing techniques by Dr Srinivas HT, Anaesthesiologist and Dr Vijay L, Plastic Surgeon respectively.

Since vitiligo surgeries are among the commonly performed procedures by Dermatologists, we had Dr Ashique KT, Consultant Dermatologist from Kerala, educating us about the various Vitiligo surgeries including suction blister grafts, melanocyte transfer for vitiligo through video demonstration.

The programme was inaugurated by our chief guest Dr B Manjunatha, Registrar and program was presided by Dr Basavangowda, Principal, JSS Medical College, in the presence of Dr Chander Grover, Convenor, SIG Dermatosurgery, IADVL.

Post inauguration we had sessions on acne surgeries by Dr Ashwini PK, Assistant Professor, Department of Dermatology, JSSMC Mysuruand by Dr Madura C, Consultant Dermatologist, Cutis, Bengaluru. Various methods of post acne scar management were demonstrated like subcision, micro needling, dermal and fat grafts for scars.

The afternoon session started with an enlightening talk by Dr Chander Grover, from Delhi who explained about an array of nail surgeries like intramatricial injections, nail biopsies and avulsions.

We had our eminent hair transplant surgeons from Bengaluru Dr Sandeep Mahapatra and Dr Savitha AS who took us through a step by step journey of doing hair transplantation, including FUE and FUT methods.

The concluding session was on the role of platelet rich plasma and platelet rich fibrin matrix in Dermatology. The session was conducted by Dr Umashankar, Professor from Rajarajeshwari Medical College, Bengaluru, which included preparation of PRP and its various indications.

Key Learning points: Nail Biopsy- Choosing an appropriate area is most important determinant of histopathologic diagnostic outcomes. The most important thing for dermatosurgery and vitiligo surgery beginners is to leave the inertia and start doing simple procedures and then gradually develop expertise into various complicated surgeries.

Dr Ashwini PK - *Organising Secretary*

Report of IADVL Torrent Dermatosurgery Workshop

Patna, 18th February, 2018

Dermatosurgery workshop was held at Patna Medical College & Hospital Patna Bihar, on 18th February under the aegis of IADVL SIG and Bihar State branch of IADVL. It is a matter of great honour and pride that Bihar was selected for the same.

The workshop started at 9am.The inauguration was done by Dr M K Sinha, President IADVL Bihar, Dr Vikas Shankar, Secretary IADVL, Dr Sanjeev Gupta coordinator SIG Dermatosurgery (IADVL Academy) Dr Amar Kant Jha Amar (Patron IADVL Bihar), Dr P K Roy (Patron IADVL Bihar). The workshop was attended by more than 60 delegates from all over the Bihar. The workshop started with welcome speech by Dr Vikas Shankar, Secretary IADVL Bihar.

Dr Siddhartha Das briefly presented lecture on "An Overview: Dermatosurgery". Dr Saurav Shekher presented lecture on tips and tricks in local anaesthesia and side effect management. Whereas Dr Chandni presented tumescent local anaesthesia, nerve block & pain management in dermatosurgery. Both the session were well appreciated as they were on practical view point.

Plastic surgeon, Dr Vivek presented on suture technique in dermatosurgery. He emphasizes on the selection of suture material and technique in cosmetic dermatosurgery.

The most important session for the beginners was presented by Dr Sanjeev Gupta on "How to set up a dermatosurgery OT in real practice". This session emphasized on the pros & cons of dermatosurgery, as well as practical guideline to set up a new unit. He stressed on how to choose instrument and minimize the expenses. All the post graduates appreciated the session as it was on practical guidelines. Another session was taken by Dr Sanjeev Gupta on "Pearls of dermatosurgery." In this session he taught the participants on how to do dermatosurgery in different ways to achieve the best result as no patient is same. Dr Sanjeev Gupta also presented a short video clip of different pearls of routine dermatosurgical procedure. Everyone really enjoyed and learned a lot from this session

Dr Rajesh Kumar presented Video demonstration on CROSS in acne scar. Dr Manas Puhan also presented a video demonstration on how to do different nail surgeries. Both the video demonstration was well presented and appreciated.

Dr Siddhartha Das did live dermatosurgery demonstration from the OT. He did vitiligo surgery (split thickness), Mole and keloid surgery as well as scar revision.Dr M K Sinha presented video lecture on different types of vitiligo surgeries.There was a very interactive panel discussion which was moderated by Dr Vikas Shankar. All delegates appreciated the knowledge they gained and quality of Audio visuals.

Key learning points: Vitiligo surgery- Melanocyte suspension-epidermal brushings obtained by manual dermabrader from donor site can be used for preparation of melanocyte suspension; by doing this donor site remains unscarred. Hypodermic needle, acupuncture needle or lumbar puncture needle can be used as disposable probe in electrosurgery units.A saw tooth punch designed and demonstratd by Dr. Sanjiv Gupta is a useful tool for nail biopsy.The onychomycotic thick nails can be abraded with dental carbide and diamond burr, by doing this there is an instant cosmetic improvement in ugly looking nail and there can be increased efficacy of topical antifungal preparations.

During valedictory function delegate and faculty feedback were taken. All the delegates were satisfied with the academic content. The audiences appreciated the live telecast of the workshop. This workshop has been accredited 3 CME hours by Bihar Council of Medical Registration vide letter no. BCMR/244-42/2012 Dt. 09-02-2018.

Bihar IADVL is thankful to all the members of IADVL National Executive Committee, SIG Dermatosurgery (IADVL Academy) for giving us such a brilliant academic feast. Special thanks to Dr Deepika Pandhi Madam and Dr Sanjeev Gupta Sir for their constant encouragement and valuable guidance

Dr. Vikas Shankar - *Organising Secretary*

Report of IADVL Torrent Dermatosurgery Workshop

Cuttack, 25th March, 2018

The IADVL Torrent Dermatosurgery Workshop 2018 was conducted by IADVL - Odisha branch at Department of Dermatology, SCB Medical College, Cuttack on 25th March, 2018. Venue was the new seminar hall Dermatology dept of SCBMCH, Cuttack. Around 80 delegates attended the workshop. National faculties were Dr Chander Grover, Dr Pradeep Kumari, Dr Siddhartha Das and Dr Bikash Ranjan Kar from SIG-Dermatosurgery. Other faculties were Dr C S Sirka, Dr Manas Ranjan Puhan, Dr Maitryee Panda, Dr Debjit Kar, Dr Rajendra Sahu, Dr Praseenjit Mohanty, Dr Priyanka Aggarwal, Dr Biswanath behera, Dr Liza Mohapatra and Dr Monali Pattnaik.

The workshop started sharp at 8.30 AM and finished by 5 PM. Inauguration was done at 10.30 AM by our senior dermatologist Prof Dr Prativa Kanungo along with Prof Dr Satyadarshee Pattnaik, President of IADVL-Odisha, Dr Sumanta Dash, Honorary Secretary of IADVL-Odisha and other invited faculties. Lunch was served in the venue at 1.30 PM. Keeping in mind the paucity of dermatosurgery done in this part of India we focussed mainly on basic procedures and daily done procedures. All were video demonstrations and focus was more on direct interaction with the faculties rather than long lectures. All the sessions were very interesting with lots of involvement by all delegates. There were two panel discussions covering all basic procedures.

Odisha council of medical registration (OCMR) had granted 4 CME credit hours for this workshop vide letter no 533 MR-8/18, Bhubaneswar,date 19th March 2018.

Topics covered were:

1. Anaesthesia in dermatology
2. RFC in xanthelasma
3. Nail biopsy
4. Surgery of cysts, nevus, tumour and atrophic scar
5. Management of in growing toe nail
6. SBG in lip angle vitiligo
7. Subscision, micro needling and TCA CROSS
8. USG guided nerve block in PHN
9. Hair transplantation
10. Split grafting in Vitiligo
11. Micropigmentation in vitiligo
12. Non cultured melanocyte transfer in vitiligo
13. IL bleomycin in viral wart

The last session was dermatosurgery quiz for all and the winners were given cash prize and trophy.

1st: Dr Dillip Kumar Behera, PLM/O/11178
2nd: Dr R Gnanasuriyan, PLM/O/10731
3rd: Dr Kallolinee Samal, PLM/O/11121 and Dr Srikanta Acharya, PLM/O/10377

Key learning points: Simple hypodermic needle can be used as a skin hook by just curving the tip of needle by artery forceps. Radiofrequency ablation for xanthelasma on lids is a simple productive technique with minimal chances of scarring. In hair transplant it is important to ensure least handling of grafts for good results. A beginner should always start with small cases in hair transplant. A well trained team is essential for the success of hair transplant surgery.
The program ended with valedictory at 5.30 PM. The accounts were audited by a CA and submitted to IADVL-Odisha branch secretary. Certificates were distributed later, as CME credit hour letter was pending during the workshop and e-certificates were also sent to all.

Dr. Manas Ranjan Puhan - *Organising Secretary*

Report of IADVL Torrent Dermatosurgery Workshop

Udaipur, 8th April, 2018

The IADVL Torrent Dermatosurgery Workshop 2018, for the west zone, was conducted by Department of Dermatology, RNT Medical College, Udaipur on 8th April 2018. Around 80 delegates attended the workshop.

The workshop started with one of the most important aspect of Dermatosurgery i.e. Anaesthesia; well taken by Dr. Avneesh Khare, Consultant Anaesthetist, Udaipur; followed by tips for setting up the Dermatosurgery Clinic. All the in-depth details were given by Dr. Sanjeev Gupta; the coordinator of IADVL Dermatosurgery SIG. The basic & advanced techniques of suturing were explained by Dr.Sumit Singhal, the plastic surgeon from Udaipur. Dr. Vinod Jain, consultant dermatologist from Jodhpur talked about principles of Dermatosurgery.

The program was inaugurated by Dr. A. K. Khare (Prof & HOD, dept. of Dermatology, RNT Medical College, Udaipur), Dr. Asit Mittal (Prof; Dept. of Dermatology Udaipur), Dr. Lalit Kumar Gupta (Prof; Dept of Dermatology, Udaipur).

Post inauguration; Vitiligo surgery update was very well taken by Dr. Saurabh Singh from AIIMS, Jodhpur followed by an excellent session by Dr. Sanjeev Gupta, where he demonstrated his modified scar less technique of donor harvesting for non cultured melanocyte suspension in vitiligo. He also gave Dermatosurgical pearls and demonstrated many of his own inventions of modified dermatosurgical instruments.

FUT vs. FUE has been an all time hot topic in all dermatosurgery conferences & workshops. Here, Dr. Prashant Agrawal, Consultant Dermatologist & Hair Transplant Surgeon, Dermadent Clinic, Udaipur gave a new concept of FUT weds FUE. Based on his experience in the field for past 7 years; he emphasized on the role &importance of both the techniques.

We had our eminent Dermatosurgeon, Dr. Puneet Goyal from Renova Clinic, Jaipur, who enlightened us about all the basic and advanced surgical techniques in Acne Scar Management.

The Concluding session was a panel discussion on, the need of hour topic – the medico legal aspect of dermatosurgery. Where our esteem panellists discussed & analysed the situation and problems arising now a days, also gave their invaluable opinion for the prevention and management of such instances.

Surgical Care

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PRE-OPERATIVE PREPARATION: Pre-operative standard operating procedure involves three main parts.

1. Consultation
2. Surgeon and operation theatre preparation
3. Patient preparation

1. CONSULTATION

This part includes consultation, counselling of patient for the required surgery and ruling out contraindications if any.

COUNSELING

1. Well conduct history and physical examination is the most important requisite this point. The surgeon should gain confidence of the patient by his kind approach and frank discussion about the problem and possible benefits and risk.
2. At this stage it alsoinform the patient that the results may take time and may vary from person to person Ex: - Hair Transplant (8-10 months), vitiligosurgery (4-6 months).
3. All the contraindications including unrealistic expectations should be ruled out at this stage.
4. If there are any doubts in patients mind or surgeons mind regarding patient's understanding then a second consultation should be schedules before allocating a surgery date

The following things are also part of a through consultation which can be included in the first go or a repeat consultation scheduled 3-10 days prior to surgery.

1. To assess the fitness of individual for anaesthesia and surgery.
2. Remember unrealistic expectation is an absolute contraindication for any surgery.
3. Informed Consent- specific to the surgery should be handed over to patient to read once the surgery date is allocated. Patient is also advised to do basic blood investigation at this stage necessary to go ahead with surgery.

NVESTIGATIONS should at least include **CBC, FBS, PPBSL, LFT, RFT, IRAL MARKER, ECG, HIV, URINE**(routine), **PHYSICIAN FITNESS CERTIFICATE**

2. SURGEON AND OPERATION THEATRE PREPARATION

Surgeon preparation- major part of surgeon preparation is related to his training in the surgeries he/ she is going to perform. This part should be covered well in advance and a good trained surgeon would have performed sufficient similar surgeries as an assistant, as a surgeon under supervision of a mentor before attempting them alone without any help or supervision.

It is a good practice to

1. Have a back up colleague in case any surgery turns complicated or surgeon requires assistance at last minute
2. Practice mock up in operation theatre for initial few independent surgeries meaning the entire layout is planned, laid out and steps of surgery discussed and role of each member discussed.
3. A surgeon should be well versed and trained in emergency CPR and handling other emergencies.

3. PRE-OPERATIVE OT PREPARATION- 24 HOURS PRIOR

- Damp dusting- the general rule is to do it from tallest item to lowest and then centre of room to periphery on floor.
- Equipment setting- all big items and emergency trays should be laid out where they are easily reachable each item should be checked for proper functioning.
- Sterile drapes and all equipment needed to position the patient should be in the room.
- Area chosen for the sterile setup should be away from doorways and traffic.

- **STANDARD EMERGENCY TRAY LIST**: RESUSCITATION EQUIPMENT- Pocket mask with 1-way valve, Disposable Airways (Adult Size, Child Size, Infant Size, Adult and Paediatric Ambu bag)
- **EVALUATION EQUIPMENT:** Blood pressure cuff- Adult, Blood pressure cuff- Paediatric, Manometer appropriate for both cuffs, Stethoscope
- **TREATMENT EQUIPMENT:** Tourniquet, Alcohol wipes, Syringes-disposable, 3cc with 20g 1.5 inch needle, 1cc TB with 25 5/8 inch needle, Band aids, Adhesive tape, IV solutions (RL,NS), IV tubing, Angiocath
- **DRUGS:** Epinephrine-1:1000 1cc ampoule; Inj. Avil, Atropine-1mg ampoule, Oxygen tank, wrench and tubing

PRE-OPERATIVE INSTRUMENT PREPARATION

Instruments to be sterilized must be free from all residual matter, such as blood or organic tissue, must also be dry and free from mineral deposit.

1. Clean instruments immediately after use.
2. All instruments should remain apart during the sterilization cycle.
3. All surgical instruments should be included within surgical pack (needle, sutures, gauze, cotton swab and draping material).
4. All instruments should be sterilized 24hrs before use.
5. Unlock all instruments and sterilize them in open position.
6. Do not overload autoclave chamber.
7. Place towel on bottom of pan to absorb excess moisture during autoclaving.

METHOD OF STERILIZATION

1. Autoclaving (steam sterilization)
2. Ethylene oxide (gas)
3. Chemical or cold sterilization

FUMIGATION

1. The area to be fumigated is usually covered to create a sealed environment. Switch off all lights, AC and other electric items.
2. Fumigant (Formaldehyde, Potassium Permanganate) is released into the space to be fumigated.
3. The space is held for a set period while the fumigant gas percolates through the space and acts on and kills any infestation.
4. The space is ventilated so that the poisonous gases are allowed to escape from the space and safe for human to enter.

PRE- PROCEDURE PREPARATION- ON SURGERY DAY

1. Recounselling regarding the surgery and outcome
2. Informed consent sign
3. Preprocedure Photographs in proper plain background
4. Xylocaine sensitivity test, Pulse, blood pressure
5. Prepare the patient with autoclave dress.
6. Preparation of local site according to the procedure.
7. Take the patient to the OT room.

INFORMED CONSENT

- Whenever a surgical procedure is undertaken documentation of medical fact is very important for medico legal reason.
- Informed consent provides confirmation that patient and doctor have discussed the operation and alternative treatment that you understand the potential risk and complication associated with surgery and patient is doing surgery at his free will after being made aware of all pros and cons.

PREOPERATIVE PATIENT CARE

- Medication to be started or stopped (antibiotics, analgesics, sedatives, injection atropine, tetanus toxoid, vitamin k)
- Shaving of hairy areas.
- Test dose of local anesthetic for anaphylaxis.

PREOPERATIVE TEAM/ OT/SURGEON PREPARATION

How to Scrub

- Scrubbed persons should function within a sterile field.
- Before putting on gloves (and gown, if needed) surgical hand sepsis should be performed.
- Surgical hand antisepsis decreases microbial counts on the skin and decreases transfer of microorganisms.

ENSURING STERILITY

- Sterile goods are stored in clean, dry areas.

- Sterile items are handled with clean, dry hands.
- Sterile packages are laid on dry surfaces.
- If a sterile package becomes damp or wet, it is considered nonsterile and therefore, cannot be used.

TEAM MEMBERS

- Unscrubbed people NEVER reach over a sterile field to transfer sterile items.
- When pouring solutions into a sterile basin, the assistant holds ONLY the lip of the bottle over the basin, to avoid reaching over a sterile area.
- The scrubbed person sets cups or basins filled, at the edge of sterile table. Assistant stands near this edge of the table to fill them.

TABLE PREPARATION

- Only the top of a sterile, draped table is considered sterile.
- The edges & sides of the drape extending below the table level are considered unsterile.
- Anything that drops below the level of the table surface is considered unsterile, it must be discarded.
- Before entering the OT room surgical cap must wear. It must cover the hair completely to prevent possible contamination of the sterile area by falling hair or dandruff. Also wear the mask to protect the patient from bacteria exhaled by operating room personnel. Mask should be changed whenever it becomes damp and after each procedure.

ANAESTHESIA IN DERMATOSURGERY

- Two types of anaesthesia are there: local and general.
- Most of the dermatological surgeries are done under local anaesthesia.
- The patient should be lying down position and keep talking to patient while injecting LA.

INTRAOPERATIVE CARE

- The purpose of intraoperative care is to maintain patient safety and comfort during surgical procedures.
- Continuous observation of patient should be done. Oxygenation should be monitored by continuous pulse oximetry, continuous ECG showing the patient's cardiac function should be in place, patient's heart rate and blood pressure should be monitored art least every 5minutes.
- In case of emergency backup personnel who are experts in airway management, emergency intubation, and advance cardiac life support must be available.
- Care must be taken to ensure that the patient's body is in proper alignment and that joints and muscles are not in such an unnatural position that they will be damaged if they remain in that position for a lengthy procedure.
- To decrease the risk of infection, strict asepsis must be followed at all times.
- The temperature in the intraoperative area should be maintained at 20-23c.
- Health care personnel who work in the operating room must not be permitted to work if they have open lesions on the hands or arms, eye infections, or respiratory infections.
- Head and facial hair must be completely contained in a lint free cap or hood, properly fitting disposable surgical mask must be worn at all times and discarded immediately after use,
- Sterile gloves and sterile gowns must be worn by those working in, and in proximity to, the sterile field.
- Careful skin preparation with appropriate antiseptic solution is performed on the patient's arrival to the operating area.

POST OPERATIVE PATIENT CARE

The patient should be discharge with comprehensive orders for the following

1) Vital sign
2) Pain control
3) Urine& GIT fluid outflow
5) Other medications
6) Lab investigations

Post-operative general instruction

These should be based on the type of surgery.

1) It should cover medication instruction, contact numbers for emergency or any doubt clarification.
2. Follow up date, dressing change when and how and where?

   Return to work, exercise and normal daily routine

   Follow up must include restarting old medication if any.

   "Simple precautions, experienced hands can yield excellent results"

Suturing Techniques

Dr. Anirudha Gulanikar
Asso Professor
Dermatology MGM
Medical College Aurangabad.

INTRODUCTION

In dermatologic surgery wound closure and aesthetic outcome of scar is of prime importance. Incorrect planning of suturing method, lack of precise surgical technique, improper placement of suture and other factors influences aesthetic outcome of scar. Since ancient time's attention was given for proper wound care and closure. The materials of suturing and techniques have been mentioned in Shushruth-sanhita.Galen and Listers are the founders of sutures in new era.

The goals of wound closure are

- Obliteration of dead space.
- Even distribution of tension along deep suture lines
- Maintenance of tensile strength across the wound until tissue tensile strength is adequate.
- Approximation and eversion of the epithelial portion of the closure.
- The most aesthetically pleasing result.

For effective achievements of these goals requirements are

- Undermining of the wound
- Suture materials
- Surgeons skill
- Suturing method and techniques.

The wound must be approximated with minimal tension and delicate handling of wound edges. To achieve aesthetic and functional outcomedepends on many factors such. The suture material used, type of wound, surgeons experience, instruments and proper handling of instruments, and the suturing techniques are the important factors for wound closure outcome. The surgeon must understand the instruments, sutures and wound to have pleasing outcome of suturing. He should have scientific knowledge for selecting instruments, suture and suturing techniques.

SUTURES

In different situations and with differences in tissue composition throughout the body, for adequate wound closure requires different suture characteristics. The selection of suture will depend on type of wound, site, and tensile strength of wound.

The ideal suture has the following characteristics:

- Easy to handle.
- Holds securely when knotted (i.e., no fraying or cutting).
- High tensile strength.
- Favourable absorption profile.
- Resistant to infection.
- Sterile.
- All-purpose (composed of material that can be used in any surgical procedure). Causes minimal tissue injury or tissue reaction. (nonelectrolytic,noncapillary,nonallergenic,noncarcinogenic)

Sutures are divided in to two main categories absorbable and non-absorbable. Each has specific role in wound closure.

Selection of sutures should be based on

- Healing characteristics of the tissue to be sutured.
- The physical and biological properties of suture.
- Condition of the wound to be closed
- Probable post operative course of the patient.
- The tissues that heal slowly such as skin, fascia and tendons should be sutured with non-absorbable suture.

NEEDLES:-

Wound closure and healing is affected by the initial tissue injury caused by needle penetration and subsequent suture passage. Needle selection, is important factor that must be considered by the surgeon for wound closure.

Suturing Techniques

Ideal needle characteristics

- High-quality stainless steel.
- Smallest diameter possible.
- Stable in the grasp of the needle holder.
- Capable of implanting suture material through tissue with minimal trauma.
- Sharp enough to penetrate tissue with minimal resistance. Sterile and corrosion-resistant to prevent introduction of microorganisms or foreign materials into the wound

Other Instruments-

The other instruments used for the wound closure are needle holder, forceps, skin hooks, scissors for tissue and suture cutting. The selection of size, material is important to have good outcome of scar.

SUTURING TECHNIQUES: -

Basic requirements

- Gloves used should be preferred without starch. Starch promotes wound infection.
- The needle must be grasped in right way, approximately2/3 from the tip of the needle. The needle holder should be tightened up to first slot in catches. Excessive tightening will damage needle. The needle should be perpendicular to needle holder. The needle holder should be grasped in thumb and fourth finger and index finger on the fulcrum of the needle holder.
- Needle should penetrate and exit the skin at 90-degree angle which promotes the eversion of wound edges. Needle should penetrate around 3-5 mm form the wound edge. Ideal suture should form a rectangle. Elevate the skin with forceps while penetrating skin.
- Forceps should always hold in proper position and should be used to stabilize wound edges. Proper handling of needle and forceps are necessary to minimize trauma to tissue and to decrease risk of losing needle. The key is to hold the position of the skin edge while releasing the needle from the needle holder.
- After placing suture properly knot should be tied. Instrument tie is preferred in cutaneous surgery. The suture should be tightened sufficiently to approximate the wound edges without constricting the tissue. Smaller knots are better than bigger. Tension on wound edges should be as horizontal as possible. Minimal ties per knot should be used.

Specific Suture types

Proper planning and decision to put which type of suture is necessary before closure of wound, in order to have elevated suture line without tension on skin edges. A simple closure is the use of direct interrupted non-absorbable skin sutures to close the wound with interrupted sutures. A layered closure entails buried absorbable sutures and interrupted permanent skin sutures. A complex closure involves the essentials of layered closures along with methods to reduce skin tension such as undermining and tissue transfer.

Types of closures

a. Simple interrupted closure – most commonly used, good for shallow wounds without edge tension
b. Simple running sutures – good for hemostasis and long wounds with minimal tension
c. Locking continuous - useful in wounds under moderate tension or in those requiring additional haemostasis because of oozing from the skin edges
d. Subcuticular Suture – good for cosmetic results
e. Vertical mattress Suture – useful in maximizing wound eversion, reducing dead space, and minimizing tension across the wound
f. Horizontal mattress Suture – good for fragile skin and high tension wounds
g. Half buried vertical mattress suture
h. Pulley suture- when additional wound closure strength is required.
i. Percutaneous deep closure – good to close dead space and decrease wound tension
j. Absorbable suture – are as part of layered suturing
k. Dermal / Subcutaneous sutures –Helps in wound eversion. May be buried horizontal mattress, running mattress, running subcuticular sutures.

Simple interrupted Suture:

Method- the wound should be stabilized with forceps or skin hook. The needle should enter the skin perpendicular to skin traversing epidermis and dermis going through opposite site and coming out perpendicular to epidermis. Both sides should have equal depth and width. In general, the dermal side of suture should be wider than epidermal so as to make the edges everted resulting in good scar. The wound edges should meet at same level.

Advantages

- It is most commonly use suture easy to place and have good strength.
- Causes less wound edema and impaired coetaneous circulation
- Can make adjustments as needed to properly align wound edges as the wound is sutured.

Disadvantages

- Time taking
- Marks across suture line

Simple running Suture

Method

Initially one simple interrupted suture is taken then series of simple sutures are placed in succession, without the suture material being tied or cut after each pass. The sutures should be evenly spaced, and tension should be evenly distributed along the suture line and completed by tying a knot after the last pass at the end of the suture line.

A simple running suture may be either locked or left unlocked. The first knot of a running locked suture is tied as in a traditional running suture and may be locked by passing the needle through the loop preceding it as each stitch is placed.

Advantage

- Quicker placement
- Useful for long wounds
- Used to secure a split- or full-thickness skin graft

Disadvantage

- Possible crosshatching,
- The risk of dehiscence if the suture material ruptures
- Difficulty in making fine adjustments along the suture line.
- Puckering of the suture line when the stitches are placed in thin skin.

MATTRESS SUTURE:

Vertical mattress suture

Method

It consists of a simple interrupted stitch placed wide and deep into the wound edge and a second more superficial interrupted stitch placed closer to the wound edge and in the opposite direction. The width of the stitch should be increased in proportion to the amount of tension on the wound—that is, the higher the tension, the wider the stitch. Placing each stitch precisely and taking symmetric bites is especially important with this suture.

Advantage

- A vertical mattress suture is especially useful in maximizing wound eversion
- Reducing dead space, and
- Minimizing tension across the wound

Disadvantage

- Visible scar

Horizontal mattress suture

Method

A horizontal mattress suture is placed by entering the skin 5-10 mm from the wound edge. The suture is passed deep in the dermis to the opposite side of the suture line and exits the skin equidistant from the wound edge. The needle renters the skin on the same side of the suture line 3-5mm lateral of the exit point. The stitch is passed deep to the opposite side of the wound, where it exits the skin; the knot is then tied.

Advantage

- Used where wounds under high tension because it provides strength and wound eversion.
- Used as a stay stitch for temporary approximation of wound edges
- May be placed before a proposed excision as a skin expansion technique to reduce tension

Disadvantages

- Suture mark.
- High risk of tissue strangulation and wound edge necrosis if tied too tightly

Variation in mattress Sutures may be needed as per circumstances to achieve good cosmetic outcome and proper wound closure

Variations are-

- Half –buried vertical mattress- cosmetically important areas such as the face.
- Pulley suture- when additional wound closure strength is required.
- Far near – near far vertical mattress- suture, is useful when tissue expansion is desired
- Half buried horizontal mattress suture- is useful for wounds under high tension because it provides strength and wound eversion

SUBCUTICULAR SUTURE.

Method

The needle is introduced distal to one wound end and brought out inside the apex of the wound within the dermis. The free end of suture can be tied off on itself. Horizontal sutures in dermis are then taken from alternating sides of the wound working towards the other wound apex. The second epidermal puncture is made when the needle exits from the other end of the wound.

Advantage

- Eliminates the risk of crosshatching
- Good cosmetic result.

Disadvantage

- The suture does not provide significant wound strength.

RUNNING SUBCUTANEOUS SUTURE

Method

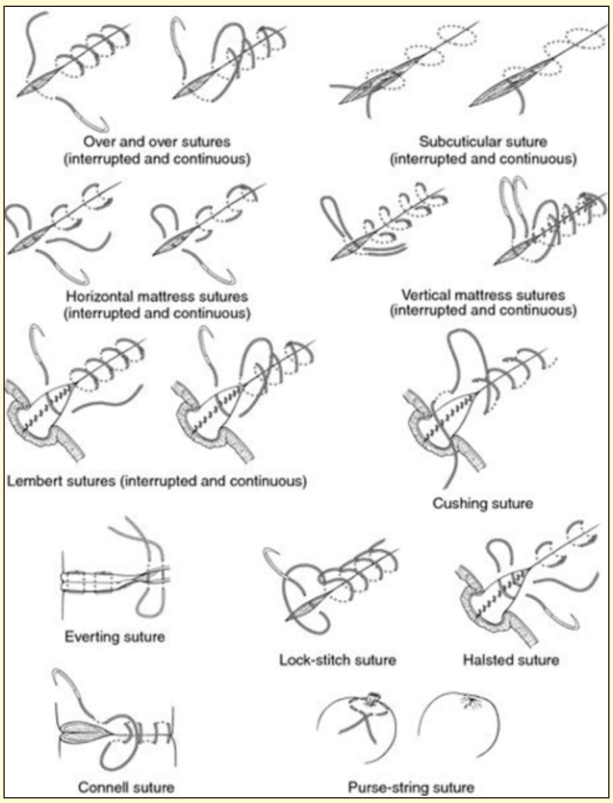
A running subcutaneous suture begins with a simple interrupted subcutaneous suture, which is tied but not cut. The suture is looped through the subcutaneous tissue by successively passing through the opposite sides of the wound. The knot is tied at the opposite end of the wound by knotting the long end of the suture material to the loop of the last pass that was placed.

Advantage

- Suture is used to close the deep portion of surgical defects under moderate tension.

Disadvantage

- Risk of suture breakage
- Formation of dead space beneath the skin surface.



Techniques of suture and wound closure, thus, are essential for good dermatologic surgery. Though many of the techniques appear basic, a thorough understanding of these techniques is essential for the dermatologic surgeon to close the wound correctly

Suture removal

The time to suture removal depends on the location and the degree of tension the wound was closed under. This varies between surgeon and situation, but as a general rule sutures on the head and neck are usually removed between five and seven days post-operatively, while sutures on trunk or extremity wounds are typically removed between ten and fourteen days. To remove sutures, one tail of the suture should be grasped with forceps and pulled gently towards one side to the wound, elevating the knot. The opposite side of the suture should then be cut with stitch-cutters or fine suture scissors immediately under the knot. The suture can then be pulled out of the tissue by pulling towards the opposite side of the wound.

Hair Transplantation in Androgenic Alopecia Using Follicular Excision Technique

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INTRODUCTION:

Hair transplant is the most rapidly evolving procedure in cosmetic surgery. **Dr. Norman** Orentreich(Father of Modern Hair Transplant) gave the concept of "**DONOR DOMINANCE**"1

Microscopic dissection of strip into follicular units (follicular units)was done by Bobby Limmer and concept of Follicular unit extraction (FUE)was given by Dr Wood, popularized by Drs William Rassman and Robert Bernstein and improved on by Dr James Harris.

Hairline Design:

Hairline design is created by joining midfrontal withfront temporalpoint and temples can be created from the temporal point.

- Mid frontal point : The most anterior point in frontal hair line
- Temporal point :Most anterior point of temporal triangle which projects from anterior sideburn border
- Front temporal point: It is the point where anterior and temporal hairlines meet
- Vertex transition point :anterior point of vertex

ZONES

- Frontal zone
- Temple zone
- Parietal zone
- Vertex zone

The outcome of the surgery depends on:

- Age : Appropriate with age and conservative hair line
- Sex: Men have a degree of bitemporal recession whereas females generally don't have bitemporal recession and the hair line curves into temples
- Degree of Donor Availability
- Facial Contour
- Hair Characteristics
- Ethnicity

MALE HAIR LINE PLACEMENT

- Strong frontal forelock should be retained in young individuals
- Partial Frontal Forelock: Hair line designed at a greater height
- Complete Loss of Forelock: General rules of hair design do not apply. It depends upon
- Extent of balding
- Age of patient
- Budgetary Requirements

GENERAL RULE IN CREATION MFP:

- Rule of Thirds
- 70 mm minimum height rule

FRONTO TEMPORAL JUNCTION

- Highly subjective
- By drawing a vertical line from lateral canthus of eye until it meets remaining temporal hair.

AN ABSOLUTE RULE IS FTP MUST NEVER BE LOWER THAN MFP

- Symmetry in hair design :laser device designed by DrPathomanich
- Irregularity (PEAKS)
- Transition zone: it refers to first few 5 to 10 mm of hairline
- Temple Hairline: construction of both temple point or upper temple border
- Parietal Hairline
- Vertex hairline

FACTORS DETERMINING OUTCOME INHT

- An important factor is the **FU density**, as previously explained.
- **Hair diameter** is also an important factor in contributing to the appearance of fullness after surgery. Thick hair (90 microns in diameter) has three times the volume of thin hair (50 microns)
- Color of hair: Black hair shines against bald scalp and hence is less suited than gray hair.
- Curly hair can cover a larger area than straight hair.
- Some inherent factors are important. In India, some author's experience is that patients from Kerala and Tamil Nadu have thick hair, a high hair density (2.7 hairs/ follicular unit) and are very suitable candidates for surgery.

CALCULATION OF GRAFTS

- Normally entire scalp measures 500cm2: 50,000 follicular units = 100,000 hairs (assuming 2 hairs per unit) on his scalp. 1
- Of these, 75% (37,500) are on the frontal scalp and vertex and hence are at risk of being lost.
- The occipital (permanent donor) area has 25% of the total hairs on the scalp (25,000 hairs or 12,500 units).
- Since a person can afford to lose half his hairs before he appears bald, of the 12,500 donor units, approximately half are available for harvesting (i.e., 6250).
- 14cm x 1.2cm = 16.8cm2.If one assumes 100 units per sq cm, one can harvest roughly (16.8 x 100) 1700 follicular unit grafts. (Consisting of about 3400 hairs).

PATIENT SELECTION

- Hair restoration can be performed in any person with pattern hair loss, with good donor
- Caution should be exercised in:
  - Young patients
  - patients with Norwood grade VI or VII with poor density
  - Patients Unrealistic expectations
  - Patients with Significant systemic health problems

MATHEMATICS OF FOLLICULAR HAIR TRANSPLANT:

- Normal density of HFU is 100 follicular units/cm2 which is constant in all individuals.
- The number of hairs per unit varies from 1 to 4 and rarely 5 per unit. (FOLLICULAR UNIT DENSITY)
- Hence, the number of hairs/cm 2 varies from person to person.
- What determines the density of hairs in a person is the number of hairs per unit and not the number of units, which is nearly constant in all individuals.

LOCAL ANESTHESIA

- 2% lignocaine with adrenaline is generally used for anesthesia.
- Bupivacaine can be added with lignocaine to prolong the duration of action; however, its cardio toxicity is a concern and hence should be used carefully.
- In addition, injection of tumescent saline solution with epinephrine and triamcinolone has been used generally, but not universally, recommended. 2
- Tumescence has the advantage that it produces vasoconstriction and reduces intraoperative bleeding. It also lifts the subcutis from the underlying vessels, and prevents damage to large vessels and nerves.

Recipient Area Anesthesia.

- Anesthesia Supra - trochlear & supra - orbital block & Ring block at periphery
- At site - Tumescent saline solution + Anesthetic mixture in 4:1 dilution

FOLLICULAR UNIT EXTRACTION

It is a blunt dissection technique involving removal of follicles from the surrounding tissue

- Pt desirous of keeping short hairs
- Significant scarring from previous surgery
- Limited scalp laxity
- Resume high level of activity soon after surgery
- Poor aesthetic results from previous surgery in frontal hair line
- Reduce pain

TEST SESSIONS SHOULD BE CARRIED IN THESE POPULATIONS

- Presence of scar tissue that binds to the follicular units
- African Pt's who have a high degree of follicular curvature which will lead to high transaction rates
- **Graft survival : Follicular unit extraction versus Strip studies have shown FUE survival can approximate that of strip grafts**
- It can be done manually or using motor.
- Different types of punches are used
- Sharp punches
- Dull punches(SAFE SYSTEM)3
- U graft punches
- Hexagonal punches

NOTEWORTHY POINTS IN EACH FUE PROCEDURE

- Skin traction
- Proper punch alignment
- Effective punch alignment
- Punch advancement
- Check for graft elevation
- Rotation speed

INSTRUMENTS FOR MAKING GRAFT SITES

- **Blades** for making slit grafts: these are very thin sharp blades or have a slightly thicker blade with a sharper chisel or pointed chisel bottom.
- **Needles:** Hypodermic, Nokor, Solid core
- **Custom Blades**
- Choi implanter (1.5/2/2.5mm)
- Laser (CO2 Laser).

RECIPIENT SITE -GRAFT INSERTION

There are several methods for insertion

'**stick and place method**' which involves making a recipient site, followed immediately by insertion of hairs in to the recipient sites by an assistant

Pre Made Slits creating all the required recipient sites at one time, and then placing the grafts one by one
use of implanters such as Choi or **KNU** implanters

Scalp hair grows differently in each part of scalp and is divided into
Hairline, Central midscalp, Temple, Lateral hump, Crown,

RECIPIENT SITE ORIENTATION

- **Coronalslits** side to side parallel to intertragal line.
- **Perpendicular** slits refers to reciepent site in which incised slit is perpendicular to the direction of hair
- **Sagittal slits** anterior posterior

Parallel slits recipient sites parallel with the direction of hair

Location	Angle	Direction
Anterior Hairline	Low (10 to 20 deg)	Anterior
Temporal Hairline	Very Low (3 to 10 deg)	Follow Sweep of Temple Hair
Lateral Hump	Low (10 to 20 deg)	Cascading from forward progressively downward
Mid Scalp	Medium (25 to 35 deg)	Anterior
Vertex Transition Point	Low (25 to 35 deg)	Slight Radial Arrangement
Crown	Medium to High (25 to 45 deg- Upper Half; 15 to 20 deg- Lower half)	Whorl

The Dermatosurgery Quiz

1. What are the agents used for cold / chemical sterilization?
2. Describe the safe dose of lignocaine?
3. Name 4 agents used for chemical cauterization?
4. What are the most resistant cells to freezing in skin?
5. Which vitiligo surgery provides fastest repigmentation in a depigmented patch?

Answers to Quiz

1. Carbolic acid, Lysol, formaldehyde, 2% glutaraldehyde, 70% alcohol.
2. Lignocaine safe dose with adrenaline 7mg/kg; without adrenaline 4.5mg/kg
3. Podophyllin, TCA, silver nitrate, Phenol.
4. Dermal connective tissue and fibroblasts- 30 to -40, degree
5. Split thickness skin grafting

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