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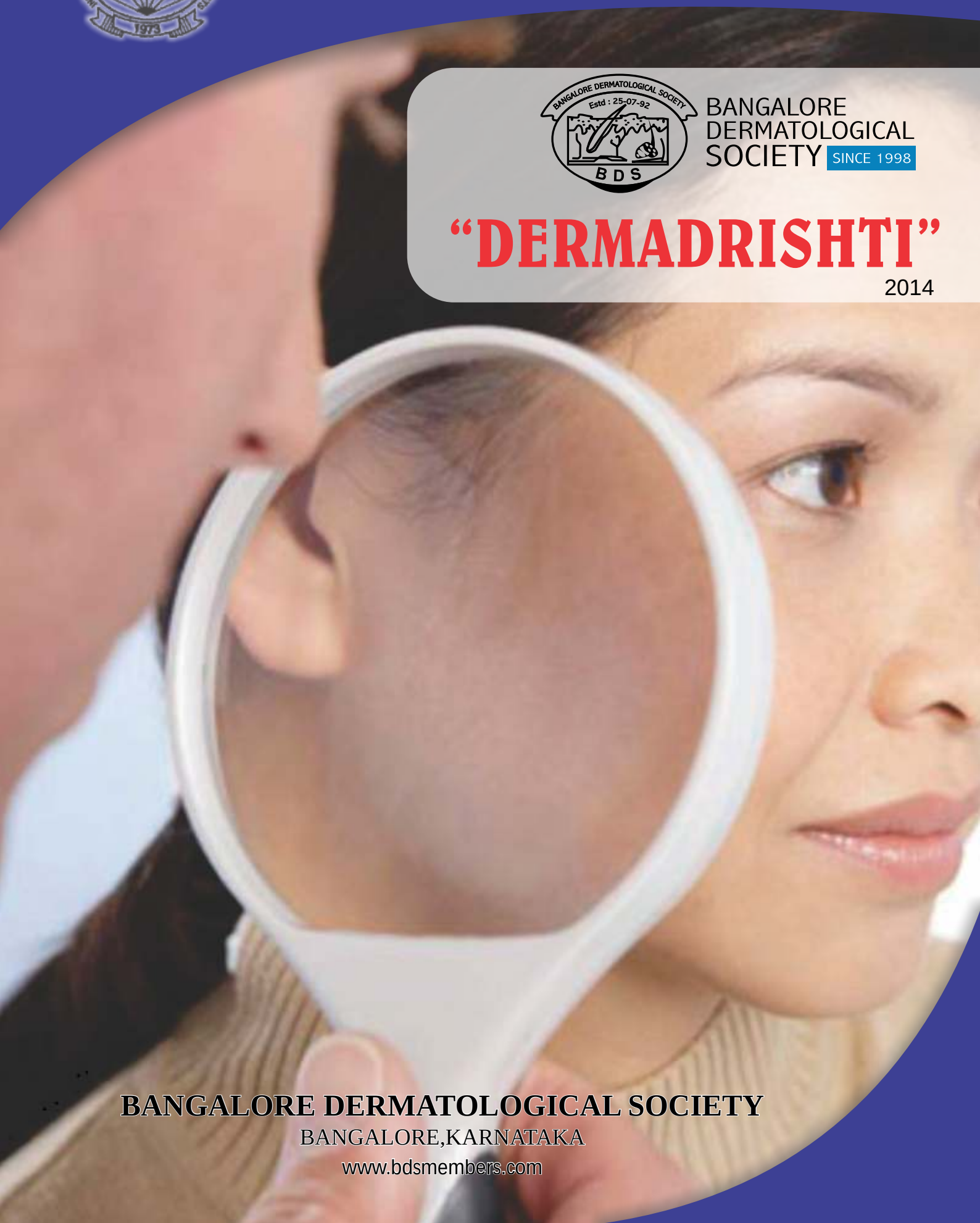
"DERMADRISHTI"

2014



BANGALORE DERMATOLOGICAL SOCIETY

BANGALORE,KARNATAKA

www.bdsmembers.com

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CONTENTS:

MINUTES OF MEETING MARCH, 2014

The 10th BDS meet was held at Makkalakoota and was headed by Dr. Sujatha C. Vinod from MVJ Medical college and teaching hospital. Dr. Asrita. P. Assistant Professor presented an informative talk on fever with rash- A Dermatologist's perspective. A series of interesting case presentations were delivered by postgraduate students, Dr. Anagha Ramesh, Dr.Sushmitha J, Dr. Mohammed Naseef and Dr.Shriya Lingam.

Dr S. Sacchidanand was felicitated on reassuming the office of the registrar (evaluation) of Rajiv Gandhi University of Health Sciences.

Dr. B.S.Chandrashekar presented a talk on newer aspects of treatment in androgenetic alopecia, including the role of PRP's, growth factors, biomimetic peptides and caffiene complex. Dr. Yogesh delivered a talk on pregnancy dermatoses.

MINUTES OF MEETING APRIL, 2014

The eleventh BDS CME was scheduled on 20/4/2014 at Makkalakoota. The programme was a focussed symposium on Dermatopathology, organised by the BDS EC members.

An informative talk on various aspects of biopsy procedures was presented by Dr. Urmila Nischal. Dr. Nandini A.S., gave a lucid talk on identification of inflammatory cells and also covered all aspects of tissue stains. A very comprehensive presentation on psoriasiform and lichenoid reaction patterens was delivered by Dr. Eshwari, (BMCRI). An interesting presentation on spongiosis and granulomatous dermatitis was delivered by Dr. Nischal. Dr. Rajalakshmi presented a talk on bullous dermatoses and vasculopathies, highlighting iportant clues to differentiate between various entities. A presentation on Histopathology of alopecias was delivered by Dr. Venkatram Mysore. Dr. Jayanth presented an informative talk on pollution board license for skin clinics.

CURRENT GUIDELINES IN THE USAGE OF BIOLOGICS IN DERMATOLOGY

BY Dr. D.S. Krupa Shankar, Professor of dermatology & Academic coordinator, Post graduate examiner & clinical researcher.

What Are Biologic Medicines?

Biologics are therapies typically derived from living organisms or organic substances and include therapeutic proteins, DNA vaccines, monoclonal antibodies, and fusion proteins as well as new experimental modalities such as gene therapy, stem cell therapy, antisense nucleotides, and RNA viruses.

What Makes a Biologic Drug So Different?

Through recombinant DNA techniques, researchers can combine DNA material from different living organisms – of the same or different species – to create modified cells with specific characteristics, such as the ability to make human proteins that can be purified and used as medicines.

Why do we require Biologics in dermatology?

Systemic treatments like methotrexate and cyclosporine have a broad impact on the immune system and can potentially cause serious side effects in other organs. Biologics offers targeted approach to therapy by blocking the action of certain immune cells or chemical messengers that play a role in psoriasis and psoriatic arthritis. They are considered to be less likely to affect other body organ systems, although their long-term effects are still being evaluated.

Currently available Biologics?

The currently available biologics can be broadly divided into anti cytokine

Anti-cytokine strategies	Anti-T-cell Strategies
Anti-IL-12/IL-23 (Ustekinumab) **Anti TNF**(adalimumab and infliximab). **sTNF receptors** (etanercept).	**Alefacept** **Efalizumab** **Itolizumab**

What are the eligibility criteria for Biologics?

- Severe disease is defined as PASI score of 10 or more (or a BSA of 10% or greater where PASI is not applicable) and a DLQ1 > 10. Disease should have been severe for 6 months; resistant to treatment and the patient should be a candidate for systemic therapy.

AND

- Fulfill at least one of following clinical categories

1. Have developed or are at higher than average risk of developing clinically important drug related toxicity and where alternative standard therapy (acitretin, methotrexate, narrow-band UVB, PUVA and cyclosporin) cannot be used.
2. Are unresponsive, intolerant to or cannot receive standard systemic therapy.
3. Have disease that requires repeated inpatient management for control.
4. Have significant co-existent unrelated morbidity which precludes the use of systemic agents like ciclosporin and methotrexate.
5. Have severe, unstable, life threatening disease such as erythrodermic or pustular psoriasis.
6. Have psoriatic arthritis

What are the conditions where biologics not recommended?

- People whose immune systems are already significantly compromised
- Individuals with active infections.
- People with active tuberculosis.
- People with multiple sclerosis
- People with congestive heart failure, including those whose symptoms rank class 3 or 4 in the New York Heart Association NYHA) classification of heart failure
- People who have recently received a live vaccine

How do we define response to biologics in Psoriasis?

An adequate response to treatment is defined as either

- A 50% or greater reduction in baseline PASI (PASI 50 response or % BSA where the PASI is not applicable) and a 5-point or greater improvement in DLQI

  Or
- A 75% reduction in PASI score compared with baseline (PASI 75 response)

WHAT ARE THE RECOMMENDED PRE-TREATMENT AND MONITORING INVESTIGATIONS?

	Pretreatment	Monitoring
Disease severity assessment (skin, joints)	yes	6 months
Identification of contraindications to therapy and/or development of therapy-induced toxicity (clinical examination)	yes	3-6 months
Cardiovascular/ neurological assessment	yes	3-6 months
Infection/ malignancy	yes	3-6 months
Assessment for latent tuberculosis	Yes	Annually
Blood tests (full blood count, LFT, hep C&B, HIV, ANA)	Yes	At 3 months, then after 6 months/ periodically
Urine (urine analysis/ pregnancy test)	yes	Only those at risk
Radiology (chest Xray)	yes	if clinically indicated

Summary & conclusion

- Treatment of moderate-to-severe psoriasis is a complex area, with the guidelines for best practice still evolving.
- An in-depth understanding of the real-life capabilities, in terms of both efficacy and safety of biologics is emerging.
- However, biologic agents represent a relatively recent therapeutic option for psoriasis and, thus, there is a relative paucity of long-term safety data.
- A biologic with a upstream mechanism of action having good safety profile, offering longer remission period and overall improving quality of life will be a choice.
- Thus, when choosing the most effective or best agent, multiple factors should be considered including patient preference, cost, tolerance, adverse effects, dosing schedule, and mode of administration.

References:

British Association of Dermatologists' guidelines for biologic interventions for psoriasis 2009, British Journal of Dermatology 2009 161, pp987–1019

JUDICIOUS USAGE OF IMMUNOMODULATORS IN DERMATOLOGY

BY Dr. Purushotham Naidu R, MD., DNB., PGCBM, Senior Medical Advisor- Immunotherapy
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Skin always been major target of clinicians interested in immunology. Treatment with immunosuppressive drugs is an integral part of clinical dermatological practice. Need for usage of immunosuppressants in dermatological practice is ever increasing. Azathioprine, cyclophosphamide, methotrexate, cyclosporine and mycophenolate mofetil are the immunosuppressive agents most commonly used by dermatologists. Familiarity with disease-specific clinical efficacy, side-effect profile, and dosage allows the successful and judicious use of these drugs in dermatologic disorders.

List of Immunomodulators in Dermatology

Topical	Biologics
-tacrolimus	-infliximab
-pimecrolimus	-etanercept
-steroids	-Itolizumab
Systemic	-rituximab
-Cyclosporine	-omalizumab
-Methotrexate	-adalimumab
-Azathioprine	
-Mycophenolate mofetil	
-Cyclophosphamide	

Few general recommendations for usage of Immunomodulators in dermatology
Before starting an immunosuppressive therapy, it is crucial to know;

- Indications
- Contraindications
- Adverse reactions
- Drug interactions associated with the administration of these drugs
- Other procedures should be followed, such as:
- collection of a detailed anamnesis,
- considering the patient's age, drugs being used, and co-morbidities, Mantoux test/ Quantiferon test to rule out TB
- Orientation to the patient about immunosuppressive therapy.
- Routine pre-treatment examination, together with clinical findings, will determine the most appropriate drug and its respective dosage.

Summary & Conclusion:

Azathioprine has a relatively good safety profile and is therefore often preferred for the treatment of chronic eczematous dermatitides and bullous disorders. Awareness of the role of genetic polymorphisms in its metabolism can increase the efficacy and safety of this drug. Cyclophosphamide is an antimetabolite that has a more rapid onset of immunosuppressive effect than azathioprine, but has significant short-term and long-term toxicity. It is of use in fulminant, life-threatening cutaneous disease. Methotrexate is an antimetabolite that has significant anti-inflammatory activity. Despite its hepatotoxicity, its role in inflammatory dermatoses is broadening. Likewise, the role of cyclosporine is being expanded. This drug has potent T-cell inhibitory effects secondary to interference with intracellular signal transduction. Given the evidence for cumulative renal toxicity, it currently has a role in the short-term treatment of refractory psoriasis and atopic dermatitis, as well as in wide range inflammatory dermatoses. MMF is gaining popularity as a safer immunosuppressant in variety of Immunodermatological disorders considering its lesser side effects.

Immunomodulating drugs are extremely valuable tools in the therapeutic arsenal of dermatologists that deal with more severe inflammatory diseases. Familiarity with disease-specific clinical efficacy, side-effect profile, and dosage allows the successful and judicious use of these drugs in dermatologic disorders.

SUMMARY OF COMMON IMMUNOSUPPRESSANTS USED IN DERMATOLOGY

Features	Azathioprine	Cyclophosphamide	Methotrexate	cyclosporine	MMF
MOA	Cell specific antimetabolite, thiopurine immunosuppressant	Non cell specific antimetabolite, selective macrophage inhibition, selective B-cell suppression	Cell specific antimetabolite	Inhibition of signal transduction, calcineurin inhibitor	Cell specifi T and B cell inhibitor
Dose*	50mgBDX 2-3 mo	1.5-2.5mg/kg/day	15mg/week	2.5-5 mg/kg X2-3mo	500mg BD X2-3mo
Time to onset of action	4-8 weeks	2-4 weeks	2-4 weeks	1-2 weeks	4-8 weeks
Administration	oral	Oral/IV	Oral/SC/IM/IV	oral	oral
Elimination	Hepatic metabolism & renal excretion	Hepatic metabolism & renal excretion	renal excretion by active tubular secretion	Hepatic metabolism	Hepatic metabolism & renal excretion
Dose in renal insufficiency	reduce	reduce	contraindicated	No change	reduce
Dose in hepatic insufficiency	No change	reduce	reduce	Significant reduction	No change
Major interactions	Allopurinol, warfarin	allopurinol	multiple	multiple	Acyclovir, iron, cholestyramine
Major toxicities	Bone marrow depression, carcinogenesis	Bone marrow depression, Carcinogenesis, hemorrhagic cystitis	Hepatotoxicity, Bone marrow depression, Carcinogenesis,	Hypertension, nephrotoxicity, carcinogenesis	Bone marrow depression, Carcinogenesis,
Monitoring	CBC, TPMT (once)	CBC	LFTs, CBC , renal	Serum creatinine, BP	CBC
Pregnancy category	Category D	Category D	Category X contraindicated	**Category C**	Category D
Use in children	contraindicated	contraindicated	with caution	**Can be used**	with caution
Most common derma indications	Parthenium dermatitis, chronic eczema Bullous disorder	Reserved for fulminant & life threatening Bullous disease	Psoriasis	Psoriasis Chronic idiopathic urticarial Resistant atopic dermatitis Alopecia areata Oral lichen planus	Psoriasis Bullous diseases Lichen planus

*dosage & duration of therapy varies from indication to indication

LASER AND LIGHT TISSUE INTERACTION

BY **DR. T.S. NAGARAJU,** CONSULTANT DERMATOLOGIST, BANGALORE

HISTORY

- The first laser of clinical significance, introduced in 1960 by Maiman, contained a ruby rod and emitted light with a wavelength of 694nm.
- Neodymium:yttrium-aluminium-garnet laser(Nd:YAG) in 1961
- The argon laser in 1962
- Carbon dioxide laser in 1964

LASER LIGHT

- The term 'laser' is an acronym for 'light amplication by stimulaled emission of radiation'.
- By absorbing energy in the form of a photon, an electron will move to an orbit at a greater distance from the nucleus.
- The tendency is to revert back to original position from this exited, unstable state.
- A photon energy is released during this process which is called spontaneous emission of radiation.
- Stimulated emission occurs when an already exited electron absorb a further photon of equal energy and then reverts to the resting orbit.
- In this process two photons of light are released, with wavelength, phase and direction of the absorbed photon. This energy is provided by an external power source.
- Each time the process is repeated the number of photons within the laser cavity increases.
- When majority of electrons are in exited state, they undergo population inversion.
- Stimulated emission becomes more probable and light amplification more significant.
- Laser light has more brightness than conventional light.
- Laser light has monochromaticity. The atom or molecule which is being exited determines wavelength of the radiation produced.
- Laser light can be considered as a sine wave, Coherence.It has distinction of being both temporally and spatiallly coherent, they are in phase in time and space.
- Laser light is nondivergent and energy conserving in which the waves are parellel, Collimation. Scanner can be used as in CO2 laser for focusing.
- Lasers are usually named after the constituent of the medium
- Gas-argon,co2 and eximer laser.
- Liquid-pulsed dye laser.
- Solid-alexandrite,diode,Er:YAG,Nd:YAG and ruby laser.
- It is exited by an external source of energy such as a flashlamp.
- The laser medium is contained within the optical(or resonater) cavity and determines the wavelength of the light created by the stimulated emission of radiation.
- The photons which are moving parellel to the optical cavity are reflected between two mirrors, stimulating emission on the same axis.
- Light is amplified and emitted through the partially covered mirror and enters a delivery system for transmission to the operator hand piece like fibre optic cable.

- Lasers can be continuous, pulsed or quality-switched.
- Continuous light consists of a uninterrupted beam of relatively low power CO2.
- It can be shuttered to deliver individual pulses.
- Superpulsing emits a rapid train of higher peak power.
- Q-switching is a means of creating short pulses of extremely high power. This is achieved by electro-optical switch which has two polarizers.

TISSUE OPTICS

- Reflection-about 4-6% of the incident light is reflected at the level of the stratum corneum.
- Absorption-The intensity of light of a particular wavelength which is transmitted through the tissue depends on its initial intensity as well as on the depth of penetration as well extinction length. This is **Beer's law**.
- When a photon is absorbed by a target molecule or chromophore, all of its energy is transferred to that molecule. Wavelength, energy, pulse can be manipulated so that a particular target chromophore absorbs light and is damaged, not destroying other chromophore
- Scattering:-Collagen mostly scatters the light.
- Scattering reduces the energy fluence.
- Scattering decreases with longer wavelength.
- Transmission:-The residual light is transmitted to the subcutaneous tissue.
- Shorter wavelengths(300-400nm)being scattered, penetrate less than o.1mm.
- Wavelengths in the range 600-1000nm penetrate deeper as they are scattered less.

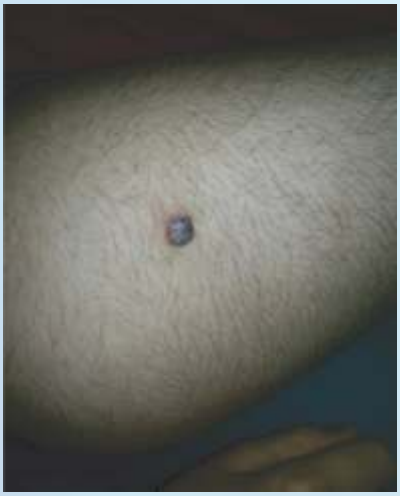
LIGHT TISSUE INTERACTION

- The wavelength of light influences the extent to which it is absorbed by the one or more chromophores.
- Light must also have energy measured in Joules and is considered as fluence or density(J/cm2).
- Power is rate at which energy is delivered and is measured in watts.
- Photostimulation-Low energy laser expedite wound healing.
- Photodynamic reaction-Irradiation with a particular light with topical application or systemic administration of drug results in photo-oxidative reaction and immediate cytotoxic reaction.
- Photothermolytic and photomechanical reactoin-Selective photothermolysis has been applied to remove superficial vascular malformations, exogenous tattos, certain benign pigmented lesions and hair. It can be used to selectively damage the chromophore.
- Wavelength- Scattering in the dermis is influenced by the wavelength. longer wavelength poorly absorbed.
- Energy fluence-The energy contained within the laser is expressed in Joules and its fluence or energy density per unit area in J/cm2.
- Thermal relaxation time-TRT is proportional to the size of the target chromophore and varies from nanoseconds(tattos)through several hundred milliseconds(leg venules).

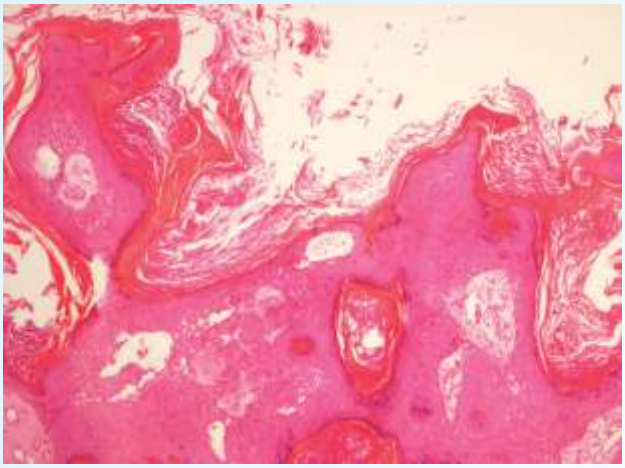
4. Case report with Quiz

BY **DR. PRAVEEN KUMAR .S, DR. A.L. SHYAMPRASAD, DR. T.K. SUMATHY, DR. CLEMENT WILFRED***
MS RAMAIAH HOSPITALS, BANGALORE
*DEPARTMENT OF PATHOLOGY, MS RAMAIAH HOSPITALS

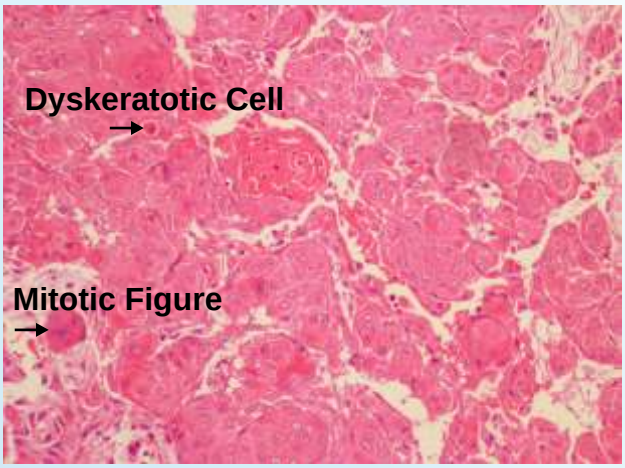
An 8 year old girl with atopic dermatitis, presented with a raised lesion over right thigh since 2 years duration. Initially, patient had a nevus like lesion since 1 year of age, and this lesion gradually increased in size over the past 6 months and then showed regression. On examination, a hyperpigmented dome-shaped nodule was seen over the anterior aspect of right thigh. The nodule was mobile, non-tender, firm in consistency with surface showing verrucous appearance with scaly crusts.



Excision biopsy of the nodule was done. Histopathological examination showed epidermis with a central crater filled with keratin and epidermal cells show proliferation with extension into dermis. There were mitotic figures.



There is no evidence of any malignancy or granuloma.

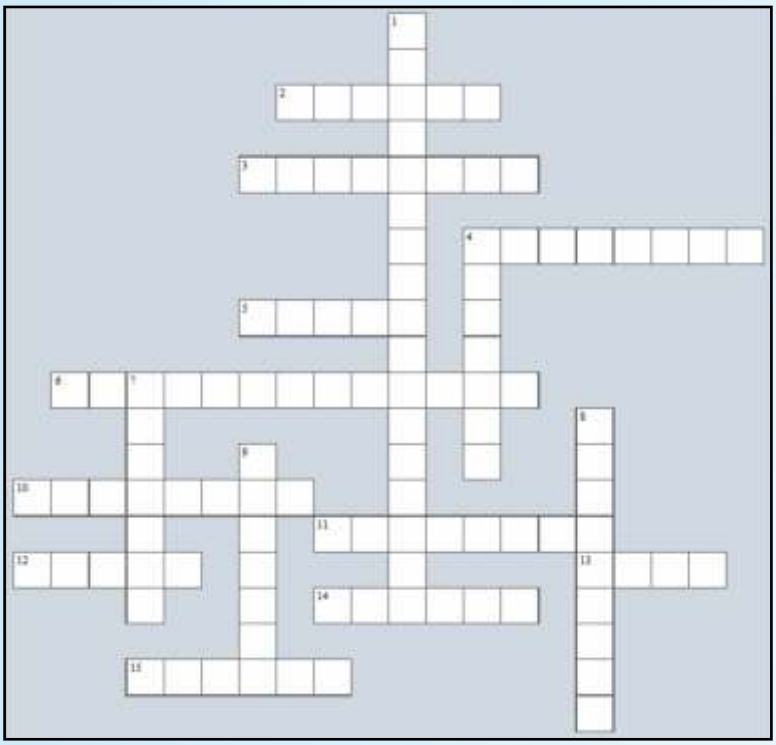


WHAT IS YOUR DIAGNOSIS?

(Answers to Quitz on Page No.12)

5. CROSSWORD ON SIGNS

BY **DR. K.N. SHIVA SWAMY,** MS RAMAIAH HOSPITALS, BANGALORE



Across

2. This scarlet fever child has bleeding spots on his skin folds (6)
3. This hyperthyroid has applied Kaajal to his eyelids (8)
4. He collects debris and say it is parasite every time he visits me (5,3)
5. This person with black urine has black spot on scleera also (5)
6. It is difficult to do 'same pinch' on his edematous toes in chronic lympedema (6,7)
10. This itchy child rubs his eyebrows too often (8)
11. He grows excess eyelashes due to Kala-azar (8)
12. He with ablock in the coronaries has a diagonal ear lobe crease (5)
13. Exactly locate the site of tenderness with pin head in Glomus tumour (4)
14. Widening of priodontal space in progressive systemic sclerosis
15. Inability to retract lower eyelid in scleroderma, also has a regimen in psoriasis (6)

Down

1. This palmar freckles are miniature neurofibromas (7,10)
4. Lipstick like mark on the rim of glass mug after hot beverage seen in Fordyce spots (7)
7. Nail of this LP patient is split and elevated with a slope (3,4)
8. Nail fold papules in multicentric reticulohistiocytosis (9)
9. This SLE lady has black dirt in her ear (6)

(Answers to Crossword on Page No.13)

6. DERMACARTOONS

BY DR. NAMRATHA, MS RAMAIAH HOSPITALS, BANGALORE

IDENTIFY THE SIGNS INDICATED BY THE DERMACARTOONS

1)

2)

(Answers to Dermacartoons on Page No.14)

7. ANSWERS TO CASE REPORT & QUIZ

DISCUSSION:

Solitary keratoacanthoma was first described as 'crateriform ulcer of face' by Hutchinson in 1889. It usually occurs in elderly, as a single lesion on the exposed areas. Keratoacanthomas reach their full size within 6 to 8 weeks from the onset, and they involute spontaneously, generally in less than 6 months, and heal with a slightly depressed scar.

Keratoacanthoma is known to occur on an organoid nevus, linear verrucal epidermal nevus and even nevus comedonicus[1,2]. In our case the lesion started as a junctional nevus and increased in size over 6 months and then showed signs of regression. Keratocanthomas show an incidence increased in immunosuppressed patients.

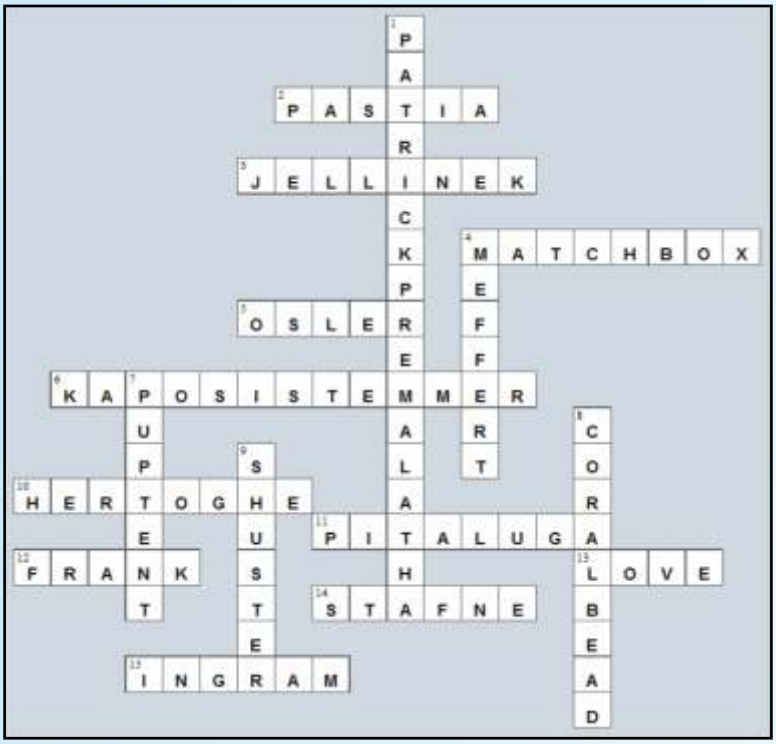
This case is presented because of its rarity of presentation in a young child with atopic dermatitis at a covered site and patient had a nevus like lesion initially which increased in size rapidly with features of keratoacanthoma in the regression phase.

References:

1. Zarrkik S, Bouhllab J, Methqal A et al. Keratoacanthoma arising in nevus comedonicus. Dermatology online journal. 2012 Jul 15; 18(7):4

2. Somesh G, Sanjeev H, Ranju R, Inder K. Keratoacanthoma arising in an organoid nevus(nevus sebaceous). Indian Journal of Dermatology, venereology and leprosy. 2000;4:209-210.

8. ANSWERS TO CROSS WORD



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9. This SLE lady has black dirt in her ear (6)

9. ANSWERS TO DERMACORTOONS

Hanging curtain sign:

Seen in pityriasis rosea when the skin is stretched across the long axis of the Herald Patch, the scale appears firm, lighter and attached to one end, which tends to fold across the line of stretch, like a hanging curtain

Dough nut sign:

It is seen in patients with scleromyxedema linear depression surrounded by an elevated rim of skin which is noted on the extended proximal interphalangeal joints.

10. NEWS & EVENTS

Download the Registration Form and fill it completely (incomplete forms will not be accepted).

Enclose the demand draft/multi-city cheque in favor of "BIJAPUR DERMATOLOGIST ASSOCIATION" PAYABLE AT BIJAPUR.

Mail to "Department of Dermatology, Venereology and Leprology, Room No 9, Shri B M Patil Medical College Hospital & Research Centre, BLDE University, Bijapur-586103, Karnataka" mentioning "CUTICON-KN 2014 REGISTRATION" over the envelope.

Postgraduate students must enclose a Bonafide Certificate issued by their Head of Department.

Forms received after 31st August 2014 will not be accepted and no queries regarding refund will be entertained.

Registration kit will not be provided on spot registration.

11. POLLUTION BOARD LICENCE FOR SKIN CLINICS:

BY **DR. JAYANTH,** CONSULTANT DERMATOLOGIST, MYSORE

1. Clinics with less than 1000 patients per month need NOT get licence for liquid waste disposal.

2. Form No. 1 is available on Pollution board website. It is to be submitted along with an affidavit in prescribed format stating that clinic is seeing less than 1000 patients per month

3. MOU with Biomedical waste disposal agency and monthly receipts to be kept in clinic at all times.

4. Plumbing of clinic can be altered for scientific liquid waste management. It can drain into a plastic tank. Bleaching powder can be added and it can be let out to gutter, once in a few days.

5. Noise pollution- diesel generators must be fitted with sound proof chambers. UPS and solar generator may be installed.