

Clinical meet- Department of Dermatology

- 1) Dr. Mohak Agarwal - Intralesional 5-FU in the treatment of Basal cell carcinoma
- 2) Dr. Jayshree Ahuja - Toxic epidermal necrolysis : Report of two cases
- 3) Dr. Anushka Rakesh - A case series of three cases of pyoderma gangrenosum of the breast in the background of covid
- 4) Dr. Sriveni Bolisetti – Comparative study of microneedling v/s microdermabrasion in females with periorbital melanosis

Intralesional 5-fluorouracil in the treatment of basal cell carcinoma

Dr. Mohak Agarwal

56 Y/F, Shilpa Mohite, Farmer

Presenting complaints :

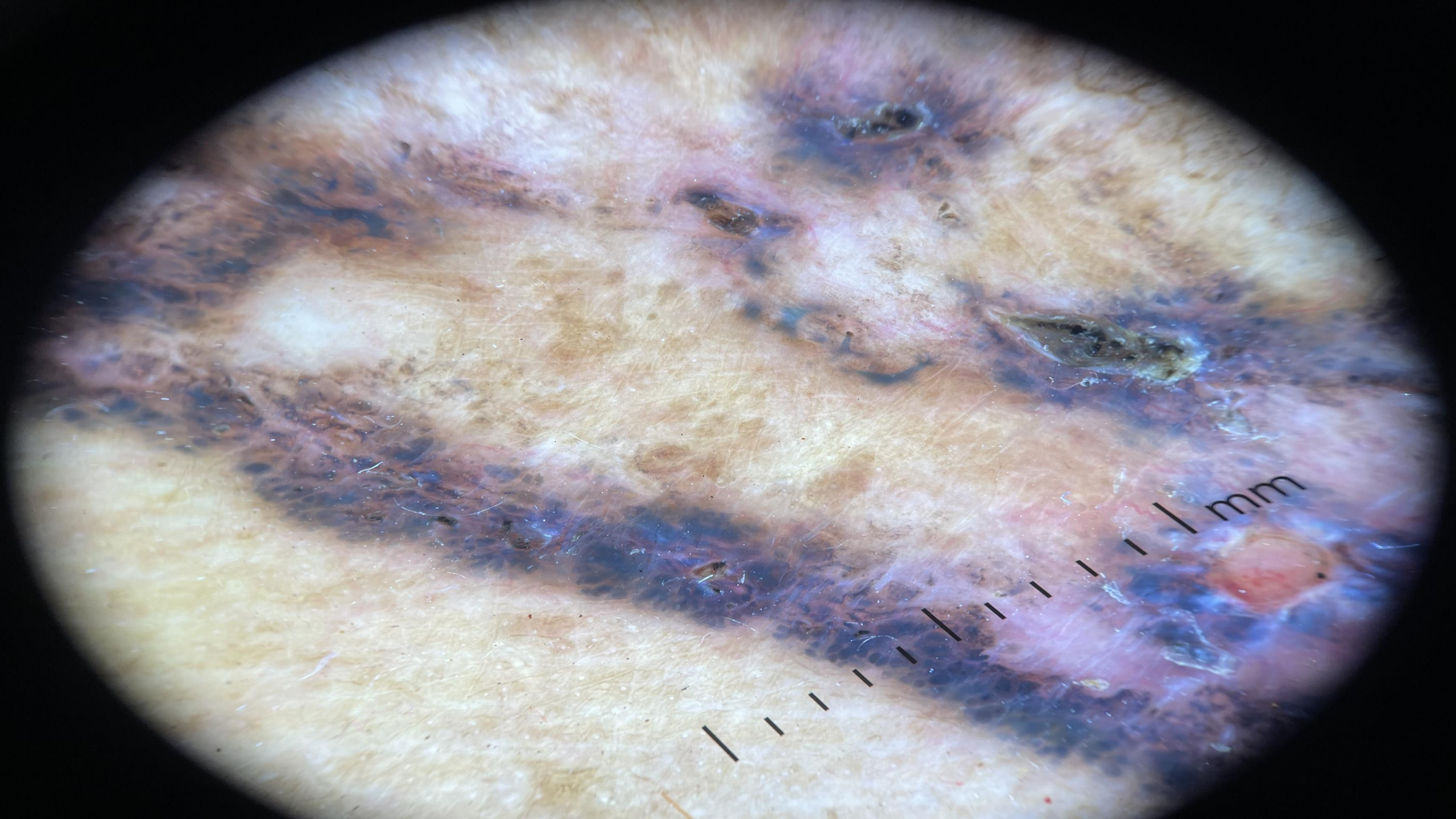
- Dark colored lesion - left side of face - 5 years

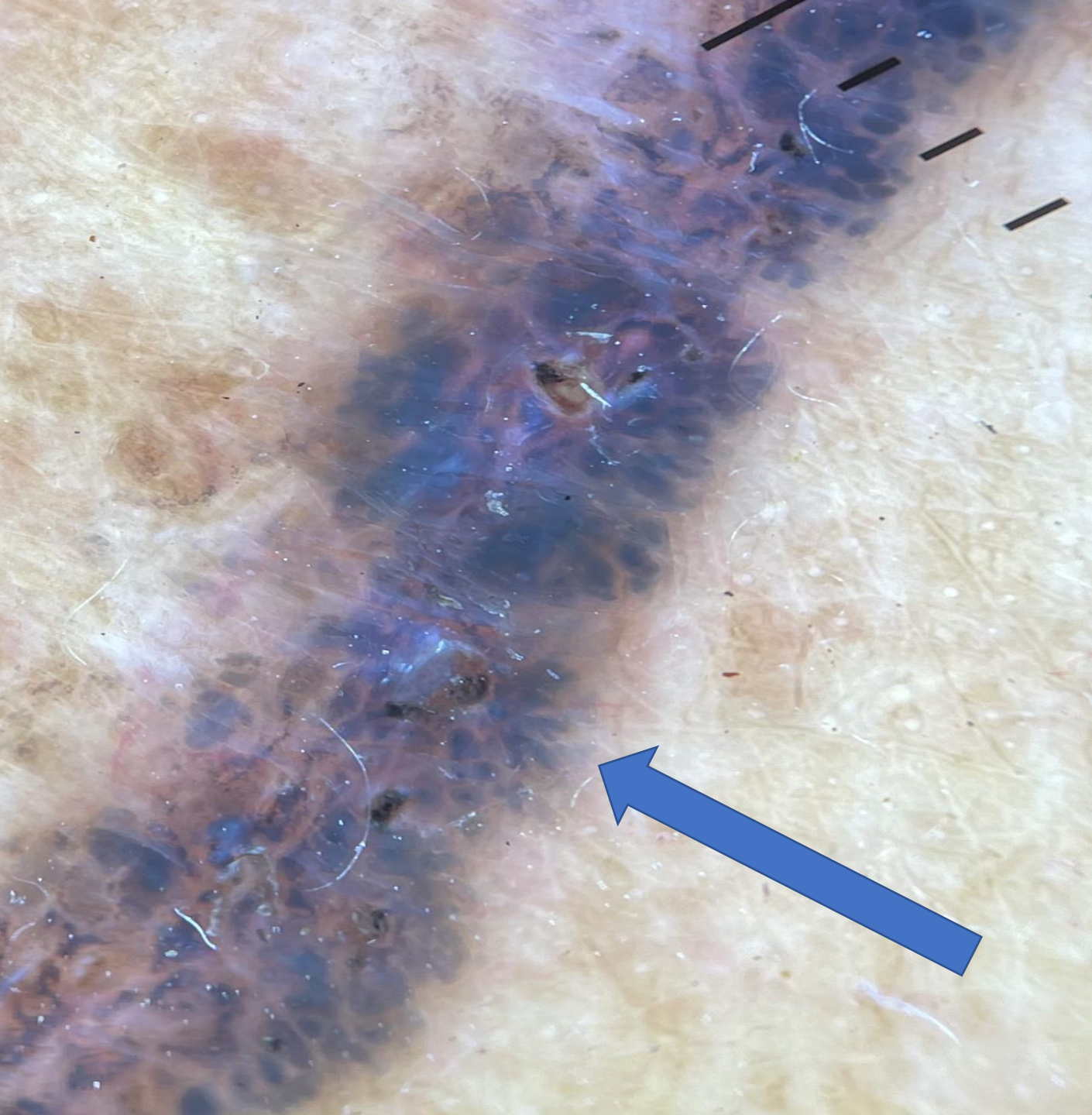
History

- Accidental acid burn - left side face -10 years
- raw areas - topical t/t - healed
- Increase burning on sun exposure over left side of face - 5 years









maple leaf

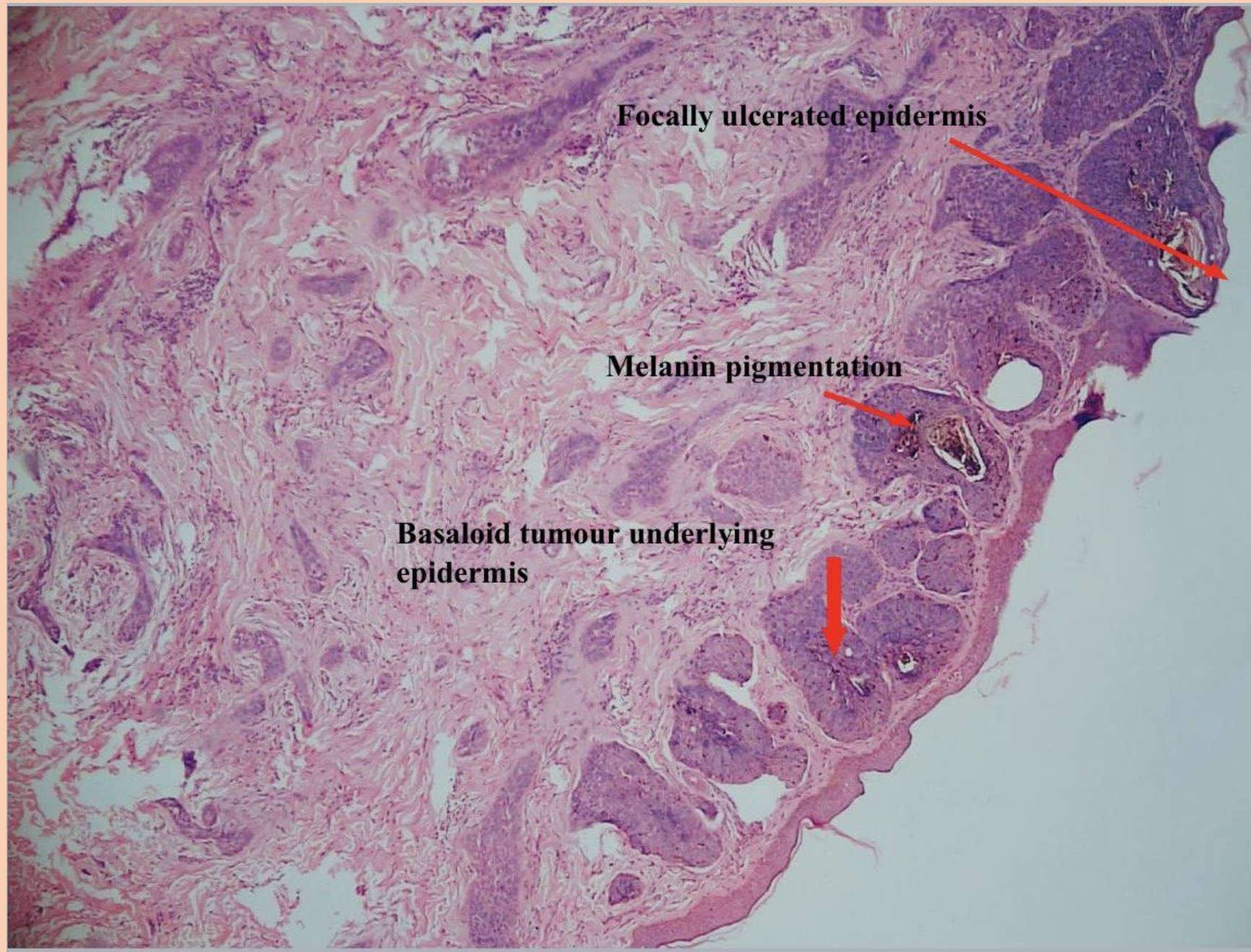
Clinical diagnosis :

- Basal cell carcinoma

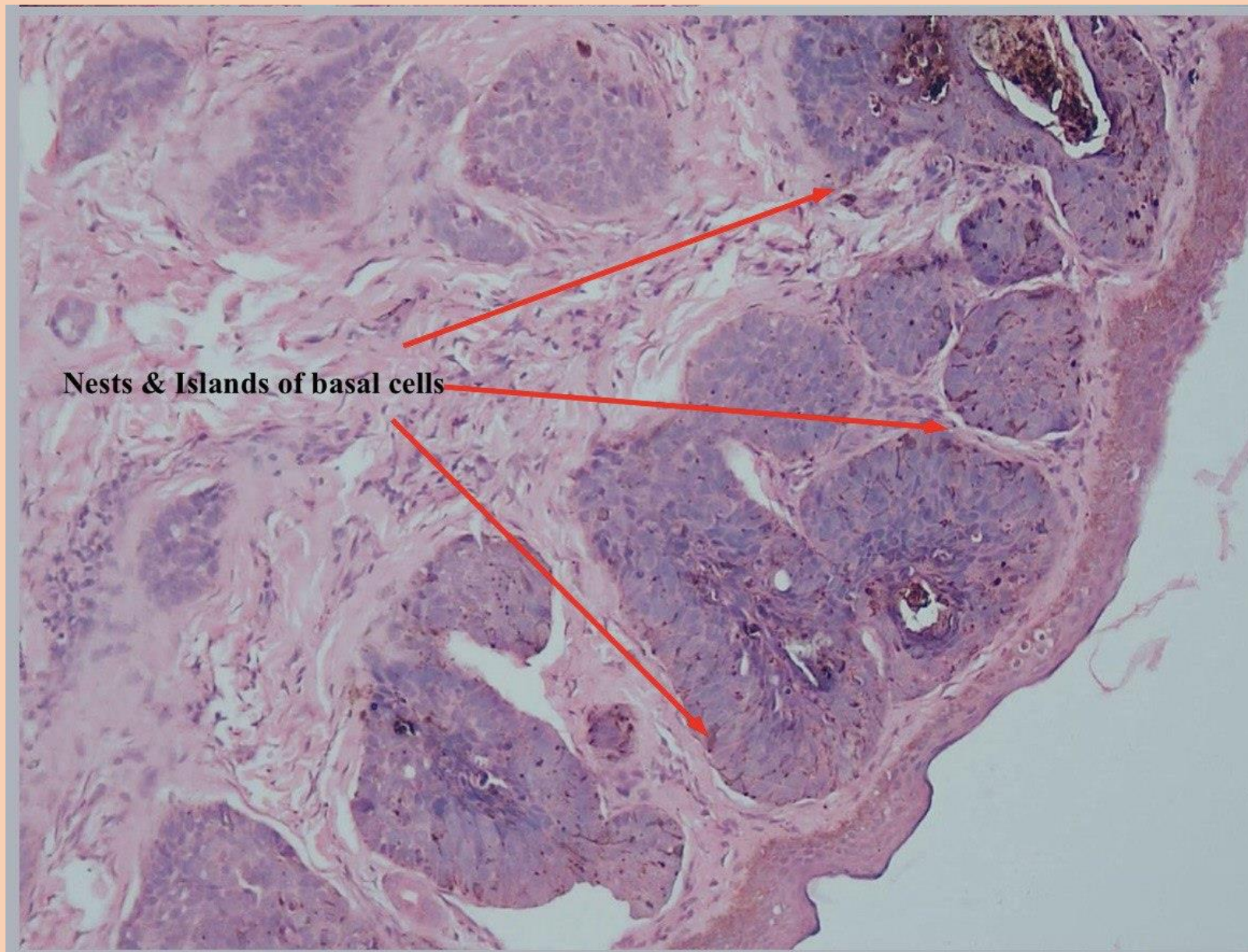
Differential :

- Malignant melanoma

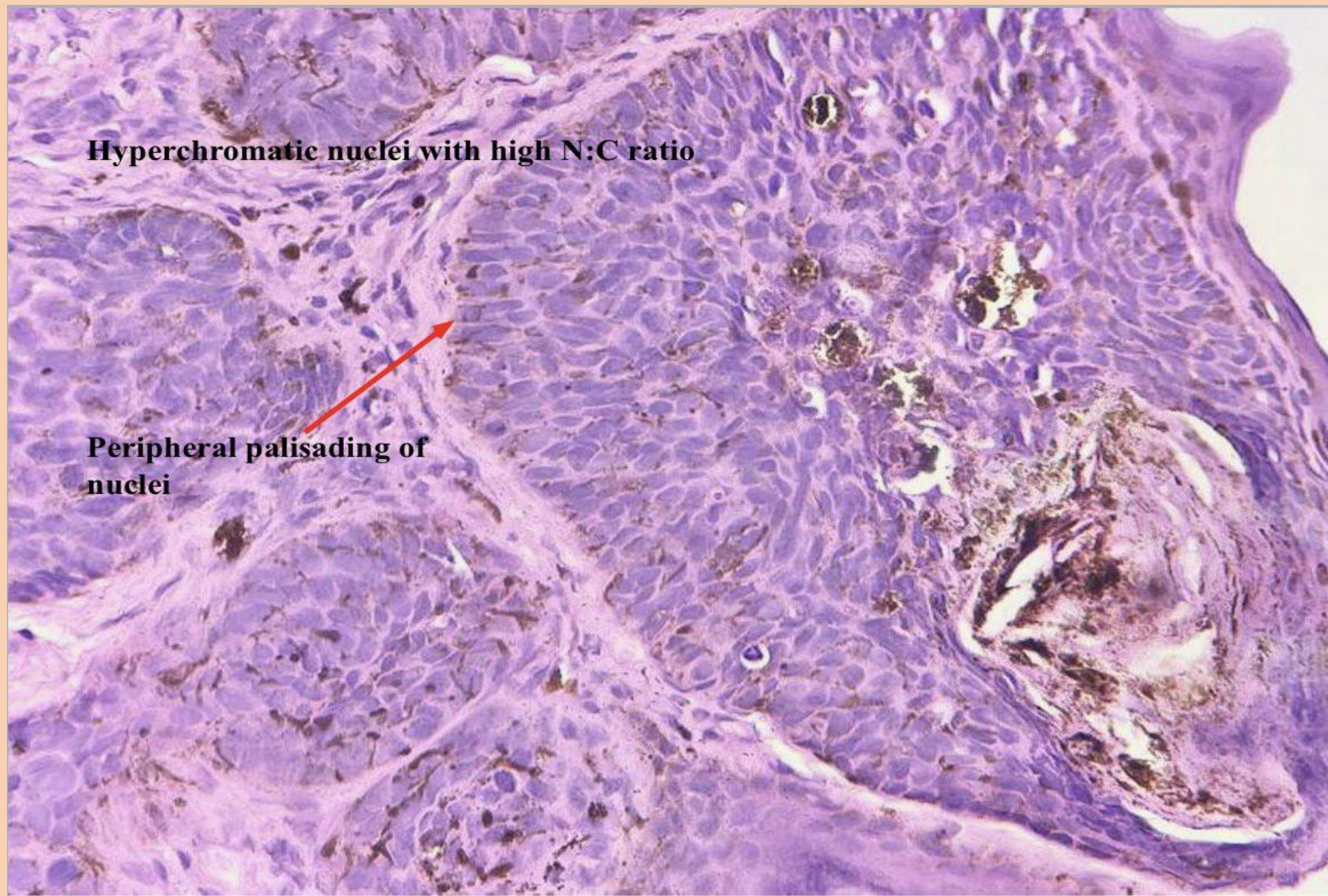
Histopathology



Photomicrograph of skin biopsy (H&E STAIN, 10X)

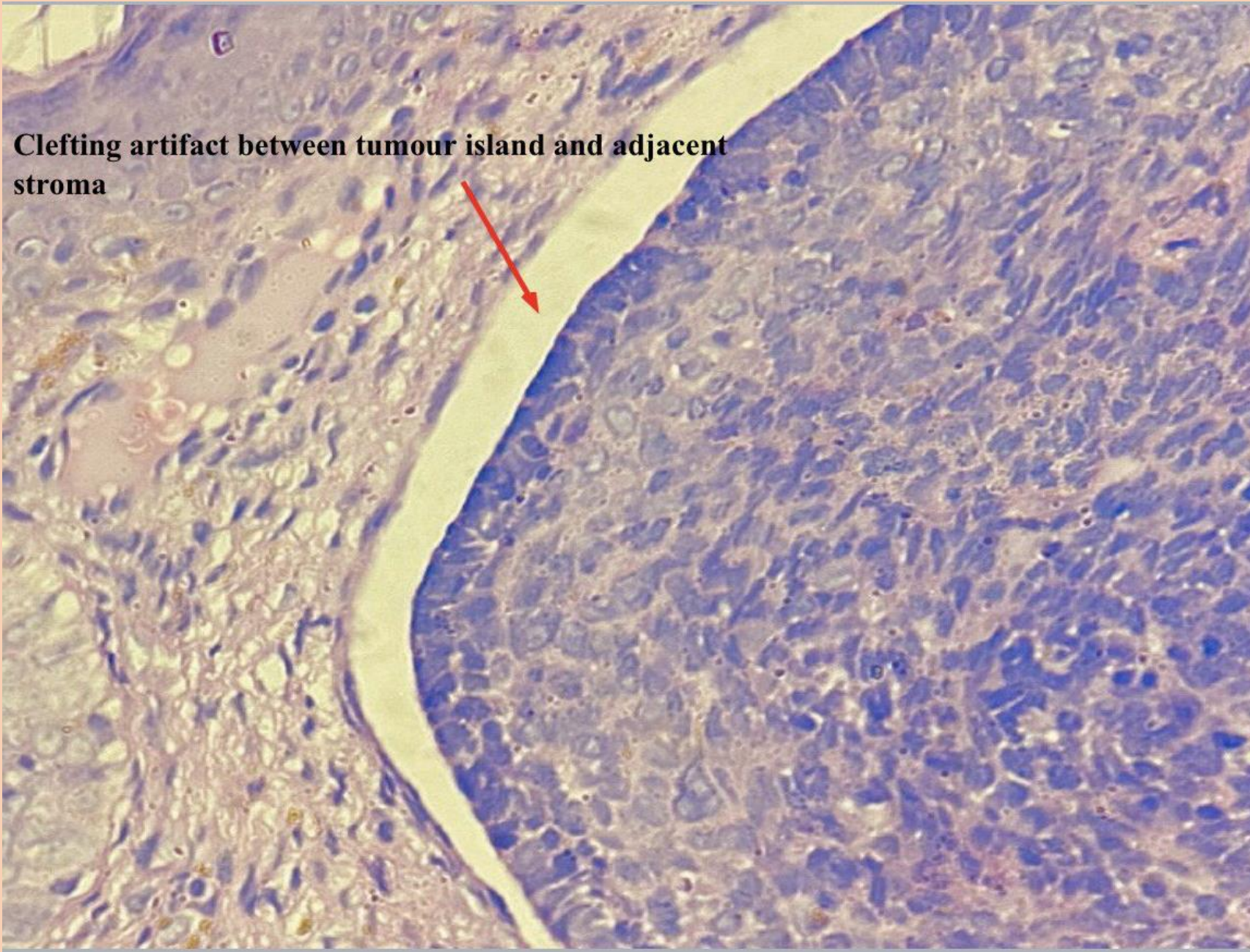


Photomicrograph of skin biopsy (H&E STAIN, 10X)



Photomicrograph of skin biopsy.(H&E STAIN, 40X)

Clefting artifact between tumour island and adjacent stroma



Photomicrograph of skin biopsy (H&E STAIN, 40X)

MRI

- Showed no evidence of metastasis

Diagnosis

Basal Cell Carcinoma
(Type : **pigmented**)

Treatment

- Intralesional 5 Fluorouracil (5-FU) 50mg/ml weekly
- Topical 5% 5-FU cream (daily twice application)



Intradermal injection

lesion divided into 4 quadrants



Injected @ 0.1ml/cm sq.

Plan : 8 weekly sittings

Till date : 7 given



Adverse effects seen in the patient

During procedure :

- Burning sensation and pain
- Watering of eyes

Post procedure :

- Erythema over injection site.

(Pt. was kept under observation & monitoring overnight post injection)

O/E

- Erythema
- Swelling

C/O

- burning sensation

Post procedural photo @ 7th visit

Discussion

- BCC → 74%
- SCC → 23%
- Localized neoplasm
- Identified & treated before substantial morbidity is incurred
- Metastatic rates : < 1%

Histopathological patterns of BCC include

- Superficial
- Nodular
- Infiltrative
- Micronodular
- Pigmented
- Morpheaform
- Basosquamous / metatypical

Gold standard for t/t : **Surgery**

- Excision with flap reconstruction
- Moh's micrographic surgery

Intralesional or topical medications is an option :

- Palliative treatment
- Patients refuses surgery
- Unfit for surgery

Long-term **follow-up** is essential to monitor for recurrent lesions.

Efficacy of **topical** 5-fluorouracil in the treatment of BCC

S.NO.	Study	Regimen	Duration	Clearance rate %
1	5-FU 5% cream	BID	UA	93 (105/113)
2	Gross	BID	11	90 (28/31)
3	Aggregate	n/a	n/a	92 (133/144)

Chitwood K, Etzkorn J, Cohen G. Topical and intralesional treatment of nonmelanoma skin cancer: efficacy and cost comparisons. Dermatol Surg. 2013 Sep;39(9):1306-16. doi: 10.1111/dsu.12300. Epub 2013 Aug 5. PMID: 23915332.

Efficacy of **intralesional** 5-FU in the treatment of BCC

S. NO.	Study	Dose (mg)	Mean no. of t/t per tumor	Clearance Rate %
1	Avant	NR	4-14	95 (20/21)
2	Kurtis	612.5	5.5	100 (2/2)
3	Aggregate	612.5	5.5	96 (22/23)

Chitwood K, Etzkorn J, Cohen G. Topical and intralesional treatment of nonmelanoma skin cancer: efficacy and cost comparisons. Dermatol Surg. 2013 Sep;39(9):1306-16. doi: 10.1111/dsu.12300. Epub 2013 Aug 5. PMID: 23915332.

Adverse effects of intralesional 5-fluorouracil

- Ulceration
- Crusting
- Scarring
- Stinging & burning during injection
- Erythema
- Swelling
- Desquamation

Intralesional injections –

- MTX
@25 mg/mL , 12.5 mg/mL or 25 mg/mL
- Bleomycin
@0.2 to 1.5 mg/mL
- IFNs (IFN α -2, IFN α -2a)
- IFN α -2b, IFN- β , and IFN- γ

5-fluorouracil

- Fluorinated **pyrimidine analog** with cytotoxic effect.
- Irreversible inhibitor of **thymidine synthetase**

FDA approved -

- Topical 5% cream is approved for -
 - Keratoacanthoma
 - BCC
 - SCC

Thank You



Toxic epidermal necrolysis: Report of two cases

Dr. Jayshree Ahuja

Case 1- 37 Y/F, Mukta Gore, Homemaker

- Recently diagnosed with Rheumatoid arthritis -
Sulphasalazine -15 days prior to presentation

Presenting complaints:

- Fever- 8 days
- Redness, peeling and blisters- 6 days

Case 2- 27 Y/F, Poonam Ingavale, Homemaker

- Recently diagnosed with *Tinea cruris*
Griseofulvin -7 days prior to presentation

Presenting complaints:

- Raw areas in oral cavity- 10 days
- Blisters & redness - 7 days
- Peeling - 2 days

Case 1 - on admission



- Erythema
- Blisters
- Erosions
- Peeling
- Crusting











Case 2 - on admission



- Erythema
- Blisters
- Erosions
- Peeling
- Haemorrhagic crust







SCORTEN

Prognostic factors		Points
Age (years)	> 40 years	1
Presence of malignancy	Evolving cancers or hematologic malignancy	1
Epidermal detachment	> 10% of BSA at admission	1
Heart rate (HR)	> 120 beats/min	1
Serum urea	> 10 mmol/L (27 mg/dL)	1
Serum glucose	> 14 mmol/L (252 mg/dL)	1
Serum bicarbonate	< 20 mmol/L (20 mEq/L)	1

Predicted mortality rate of scorten

Score	Mortality (%)
0	1.2
1	3.9
2	12.2
3	32.4
4	62.2
5	85.0
6	95.1
7	98.5

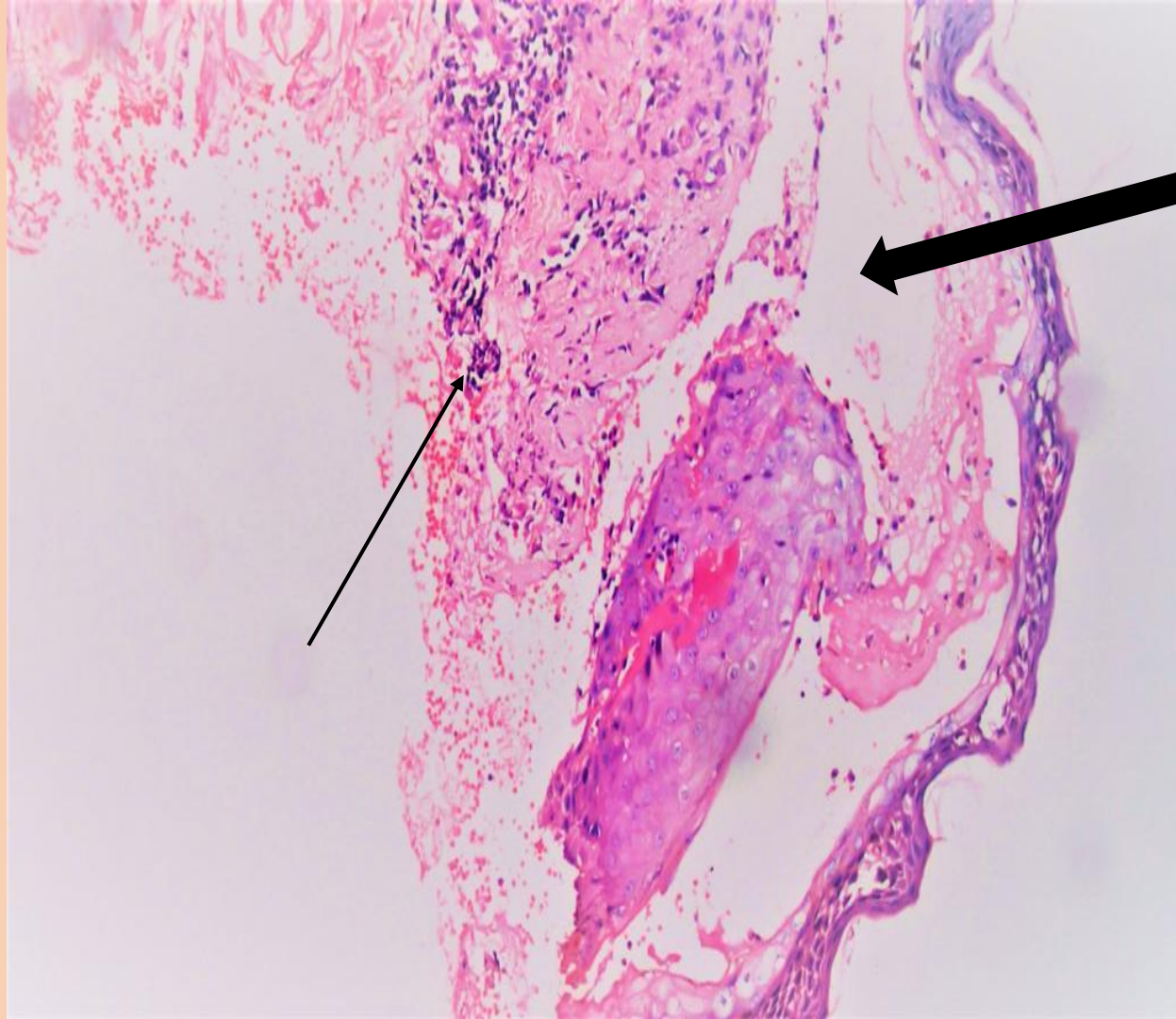
Scorten in our cases

Prognostic factors	Case 1	Case 2
Age	37 yrs	27 yrs
Malignancy	none	none
Epidermal detachment	> 60% BSA	> 80 % BSA
Bicarbonate	31.2	14.9
Urea	25	63
Glucose	108	152
Heart rate	86	112
Total score	1	3
Predicted mortality	3.9 %	35.8 %

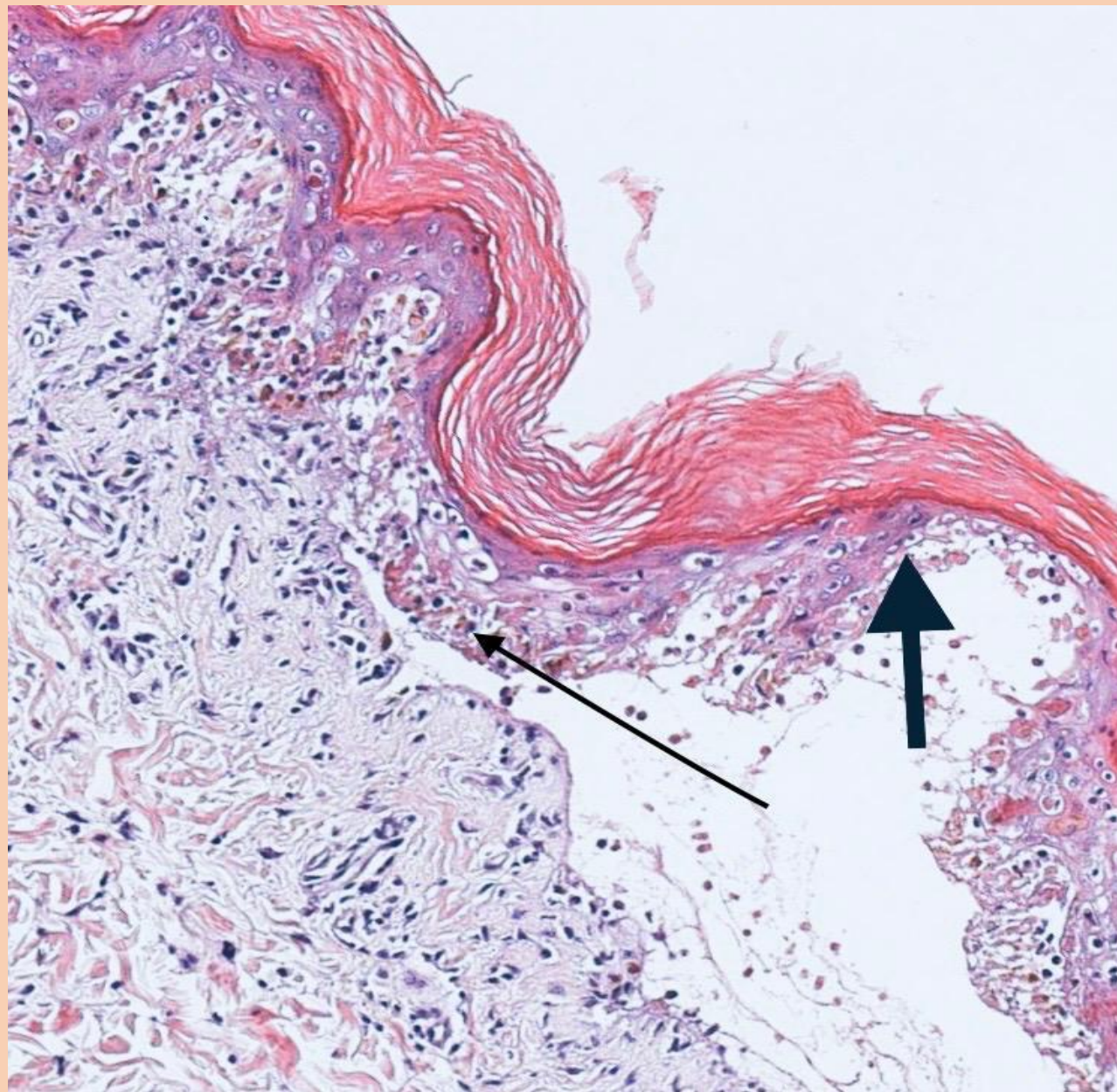
Laboratory findings in our cases

Investigations	Case 1	Case 2
Hb	11.1	12.10
TLC	4000	4500
ESR/CRP	45/40	30/156
D-dimer	1422	3000
Procalcitonin	0.03	2.23
PT/INR	11/1.01	13.06/1.15
Urea/creatinine	25/0.55	63/1.08
Albumin/Globulin	3.0/3.44	2.86/3.41
Na/K/Cl	134/4.8/104	139/4.4/104

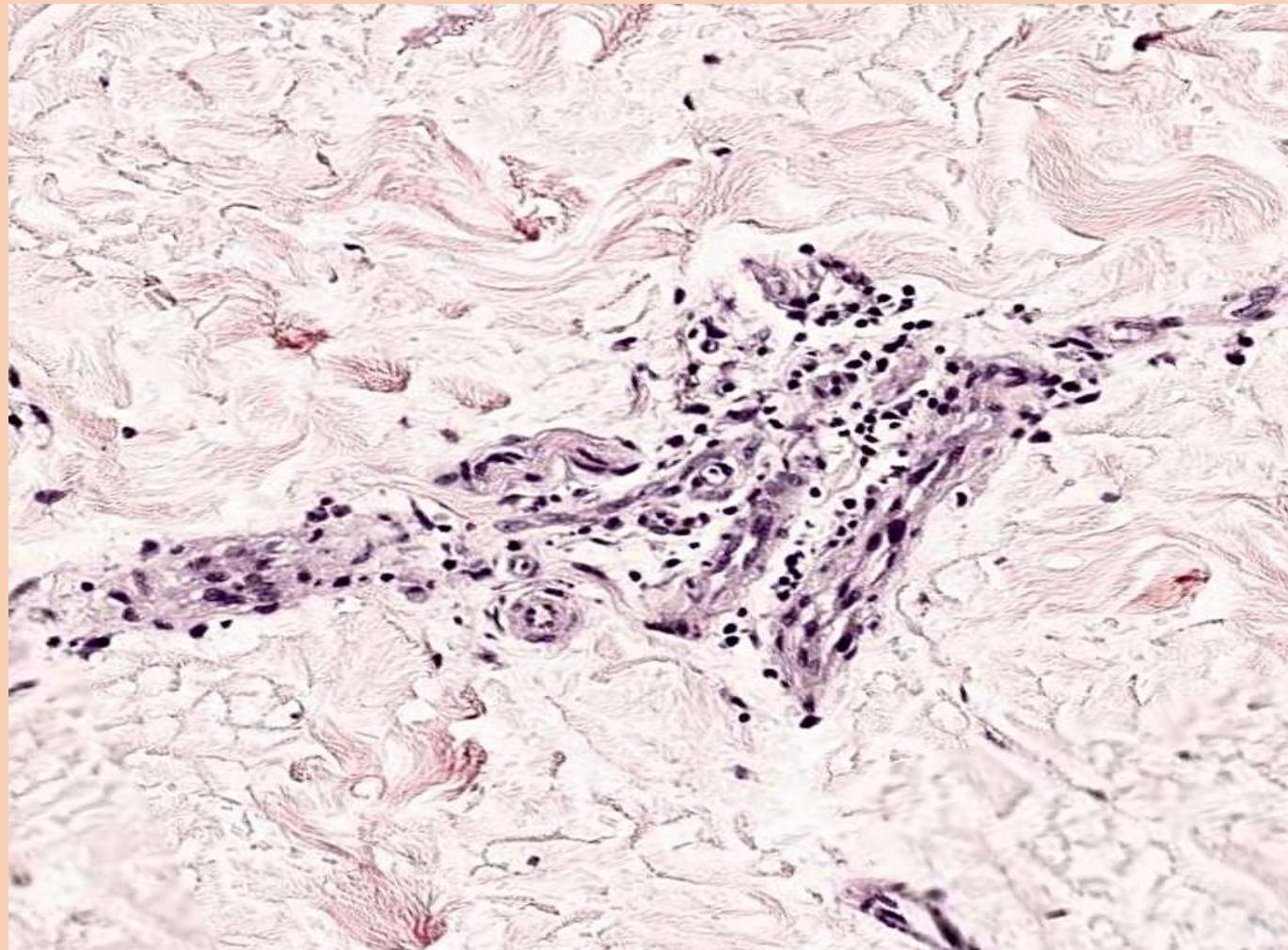
Histopathology



Photomicrograph of skin biopsy, showing subepidermal bulla and intradermal inflammatory infiltrate (H&E STAIN, 100X)



Photomicrograph of skin biopsy, showing apoptotic keratinocytes and necrosis (H&E STAIN, 100X)



Photomicrograph of skin biopsy, showing perivascular lymphocytic infiltration (H&E STAIN, 400X)

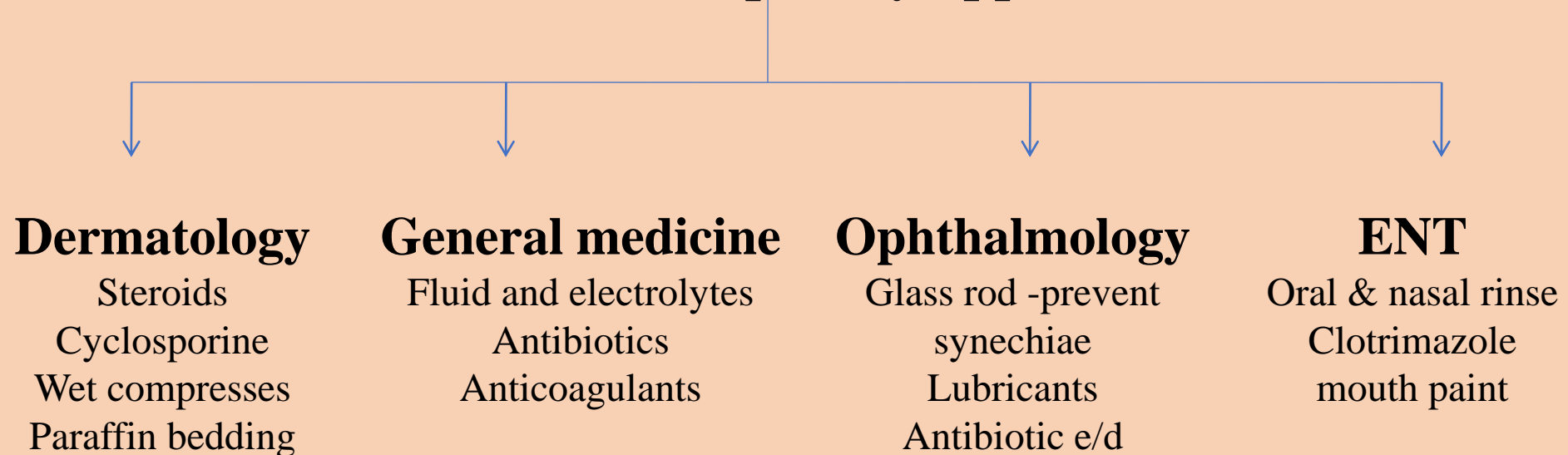
Diagnosis

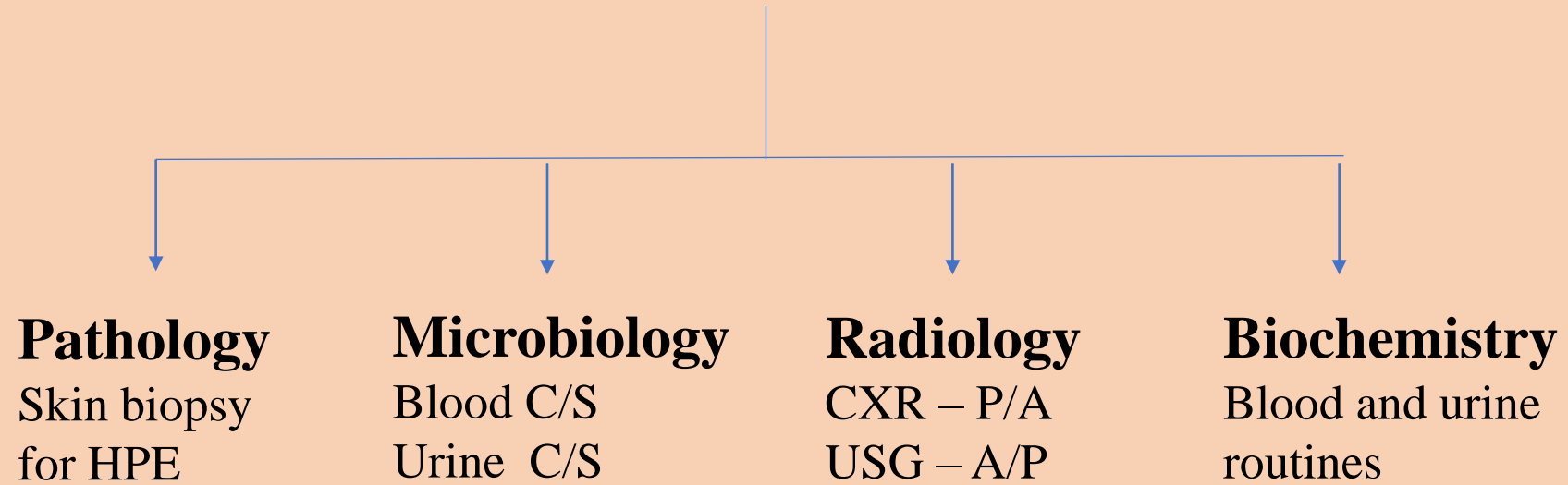
Toxic epidermal necrolysis

Approach

Step 1- Withdrawal of the offending drug

Step 2- ICU admission- multidisciplinary approach





Case 1- Systemic medications

1) IV Dexamethasone

4 mg-0-2 mg for 4 days



4 mg-0-0 for 10 days



3mg-0-0 for 2 days



Prednisolone 15 mg-0-0 for 2 days →
10 mg-0-0 for 7 days → stopped

2) Concomitantly

Cyclosporine

100 mg-0-100 mg for 15 days



100 mg-0-0 for 2 days



Stopped

3) Minocycline 100 mg-0-100 mg for 7 days

4) Enoxaparin s.c 40 mg/day (0.4 cc) for 5 days

Case 2- Systemic medications

1) **IV Dexamethasone** 8 mg stat on the first day



IV Methylprednisolone 1g for 3 days

2) Concomitantly

Cyclosporine

100 mg-100mg-100mg for 12 days



100 mg-0-100 mg for 2 days



0-0-100 mg for 2 days



Stopped

3) IV antibiotics as per C/S report

- Metronidazole 100 ml 8 hourly for 22 days
- Fluconazole 400 mg-0-0 for 14 days
- Meropenem 1 g 8 hourly for 12 days
- Tigecycline 100 mg stat → 50 mg 12 hourly for 13 days

Case 1

After 17 days of treatment















Case 1

- Alert card was issued –
- Avoid sulfasalazine
& other sulfa drugs like:

Sulfonamides
Cotrimoxazole
Sulfonylureas
Sulfadiazine
Sulfisoxazole

DPU
DR. D. Y. PATIL VIDYARPEETH PUNE
(GRANTED TO BE UNIVERSITY)

Dr. D. Y. Patil Medical
College, Hospital and
Research Centre.
Pimpri, Pune

Adverse Drug Reaction Alert Card

Name: Mukta Vajinath Gore

Age/Sex: 37/F Blood Group: A+ve

Contact Number: 9552609010

EM contact: 9359263609

Major illness, if any: _____

Drug reaction reporting help-line (PvPI)
1800-180-3024

Case 2

After 1 month of treatment





Adverse Drug Reaction Alert Card

Name: Poonam Amar Ingavale

Age/Sex: 27/F Blood Group: B +ve

Contact Number: 7447493880

EM contact: 9960284019

Major illness, if any: _____

Drug reaction reporting help-line (PvPI)

1800-180-3024

DRUG	REACTION	DATE
GRISEOFULVIN	TEN	26/07/2020

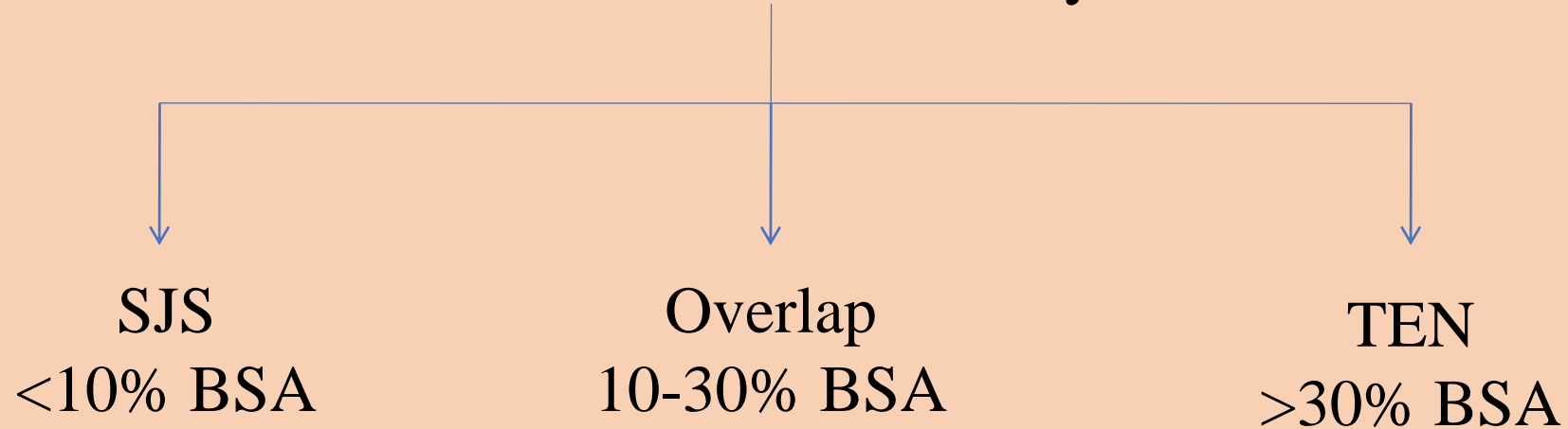
Discussion

Toxic Epidermal Necrolysis (TEN)

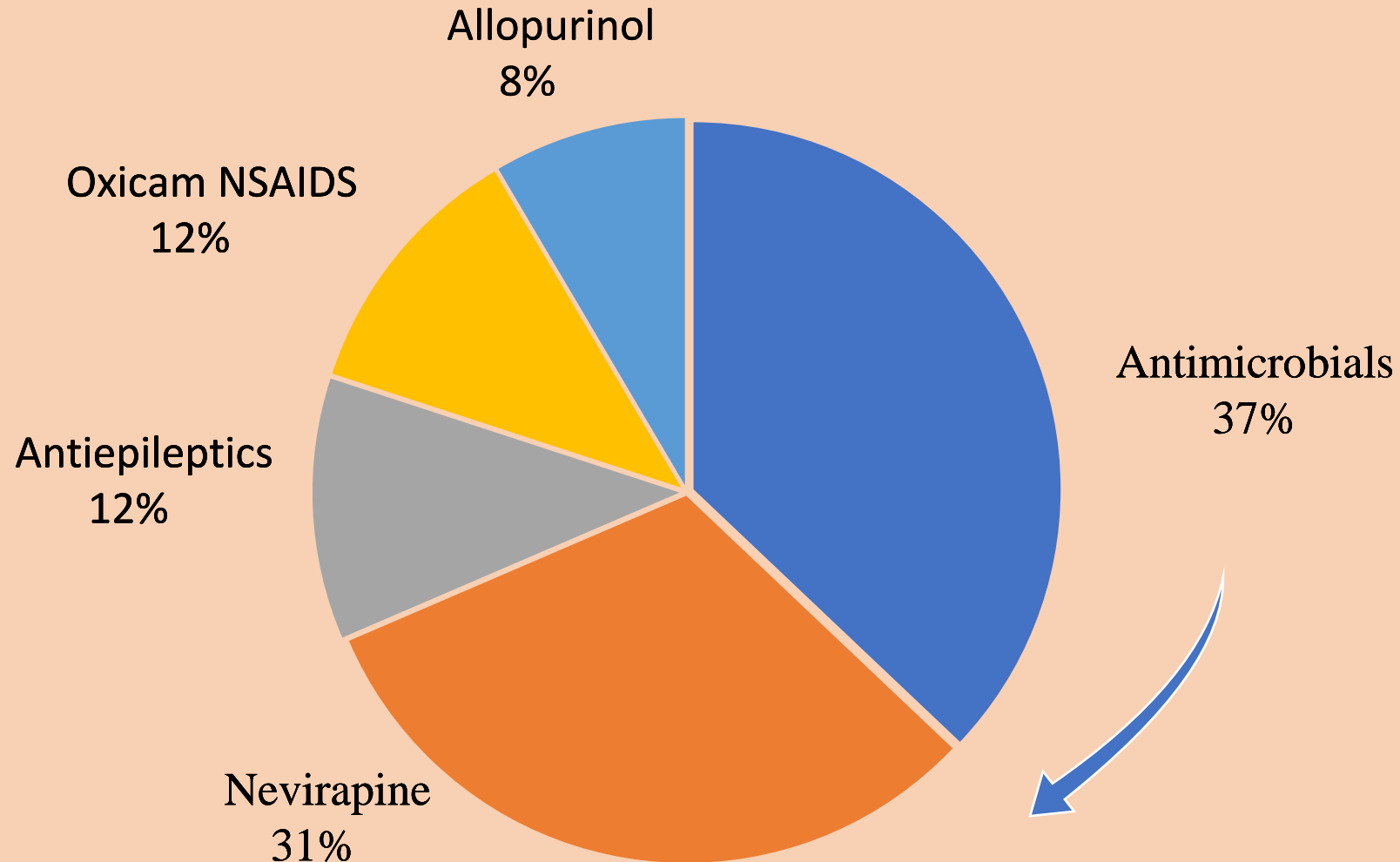
Synonym- Lyell syndrome

- Latent period → 7 to 10 days (range 5-28 days)

Classification of severity

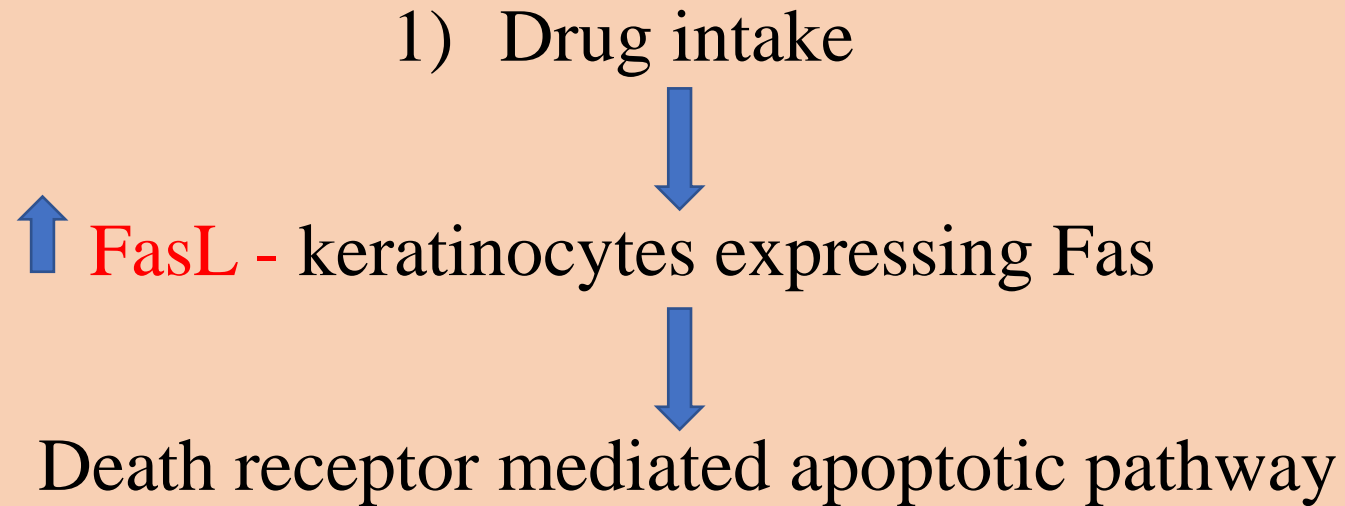


Drugs implicated in TEN



Pathogenesis

Mechanisms-



2) Drug intake



MHC class-1 T cells



CD8+Tc accumulate in blisters



Release **perforin & granzyme B**



Kill keratinocytes

3) Drug intake



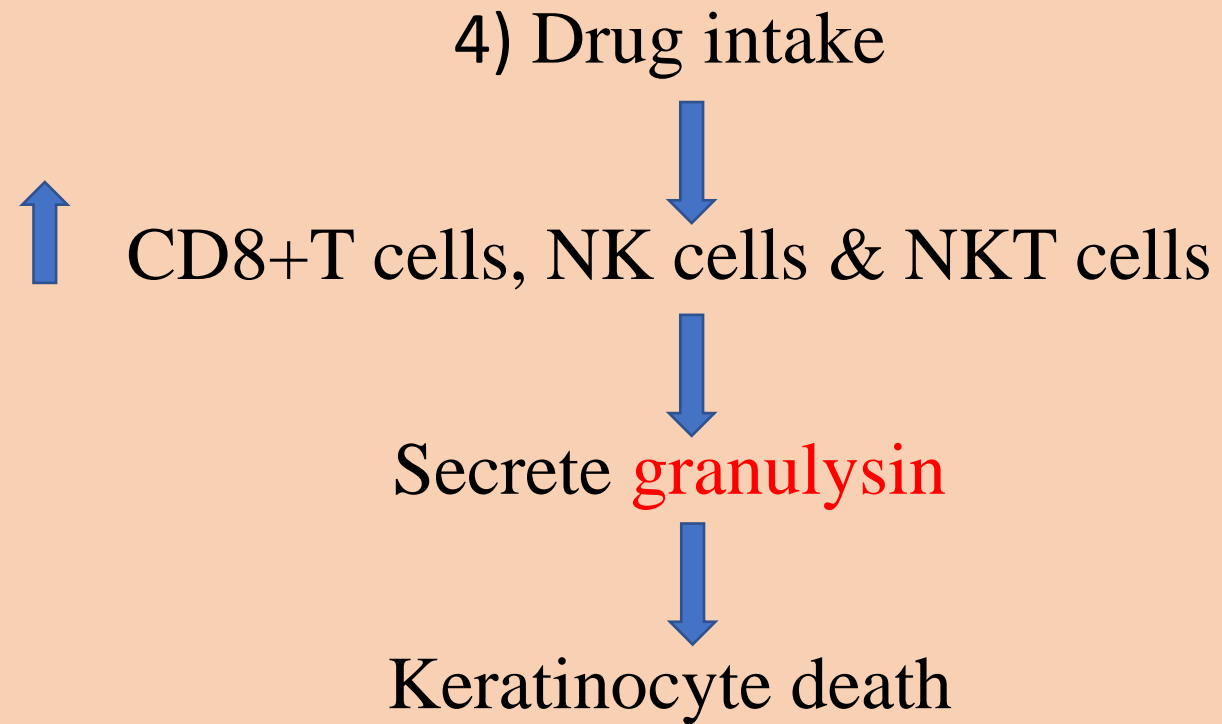
Drug-activated monocytes



Secrete **annexin A1**



Necroptosis in keratinocytes- binding to FPR1



Acute complications

- Hypothermia
- Fluid depletion
- AKI
- **Septicemia**
- Hematological - anemia, leucopenia
- Abnormal liver function
- Hypoalbuminemia
- Hyperglycemia
- Increased metabolic demand
- Bronchial erosions & airway obstruction

Long term complications

Skin	Nail	Hair
Dyspigmentation/scars	Onychomadesis	Telogen effluvium
Eruptive melanocytic naevi	Dystrophy	
Abnormal photosensitivity	Permanent anonychia	
Reduced sweating	Ridging	
Pruritus	Nail bed - pigmentation	
Oral – Gingival synechiae Dysgeusia		

Ocular	Vulvovaginal	GIT	Psychological	Pulmonary
Symblepharon	Dyspareunia	Strictures	PTSD	<i>Bronchiolitis obliterans</i>
Entropion/ trichiasis	Genital adhesions	Intestinal ulceration		
Corneal ulceration				

Treatment protocol

- Withdraw culprit drug
- Resuscitation- ICU/burns unit
- Multidisciplinary approach

Supportive

- Ambient temperature (25-28 °C)
- Air bed
- Topical therapy & dressings
- Fluid replacement & nutrition
- Analgesia
- Preventing/treating infections

Definitive treatment

In early stages of acute phase-

1) IVIG (0.5-1 g/kg/day for 3-4 days)

or

2) Systemic corticosteroid

- **Prednisolone** 0.5-1 mg/kg/day

or

- **IV methyl prednisolone** 500 mg - 3 days

or

3) Cyclosporine 3 or 4 mg/kg/day in divided doses



Thank
you

A series of three cases of
pyoderma gangrenosum of the breast
in the background of Covid

Dr. Anushka Rakesh

Introduction

- Cutaneous necrotizing neutrophilic disorder
- Non-infectious
- Rapidly spreading
- Tender ulcer
- Preceded by inflammatory papule / nodule/ pustule
- Most commonly → pretibial areas

Case 1 : Usha Gore, 37Y/F, Housewife



Two painful raw lesions on left breast since 5 months & 10 days respectively.

Case 2: Ruchita Yadav, 40Y/F , Housewife



Ulcer on right breast since 20 days

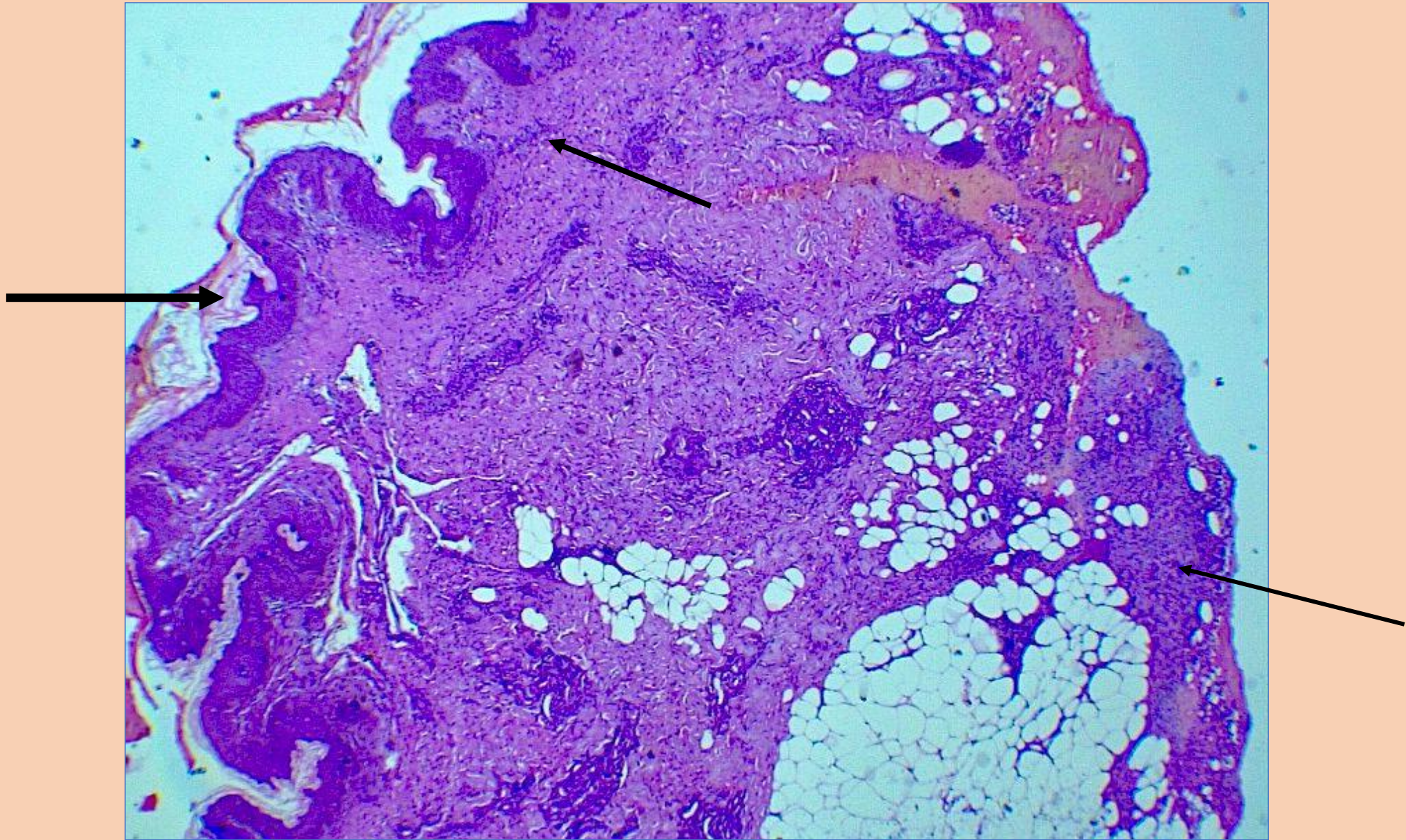
Case 3: Manisha Wadmare, 42Y/F , Saloon employee



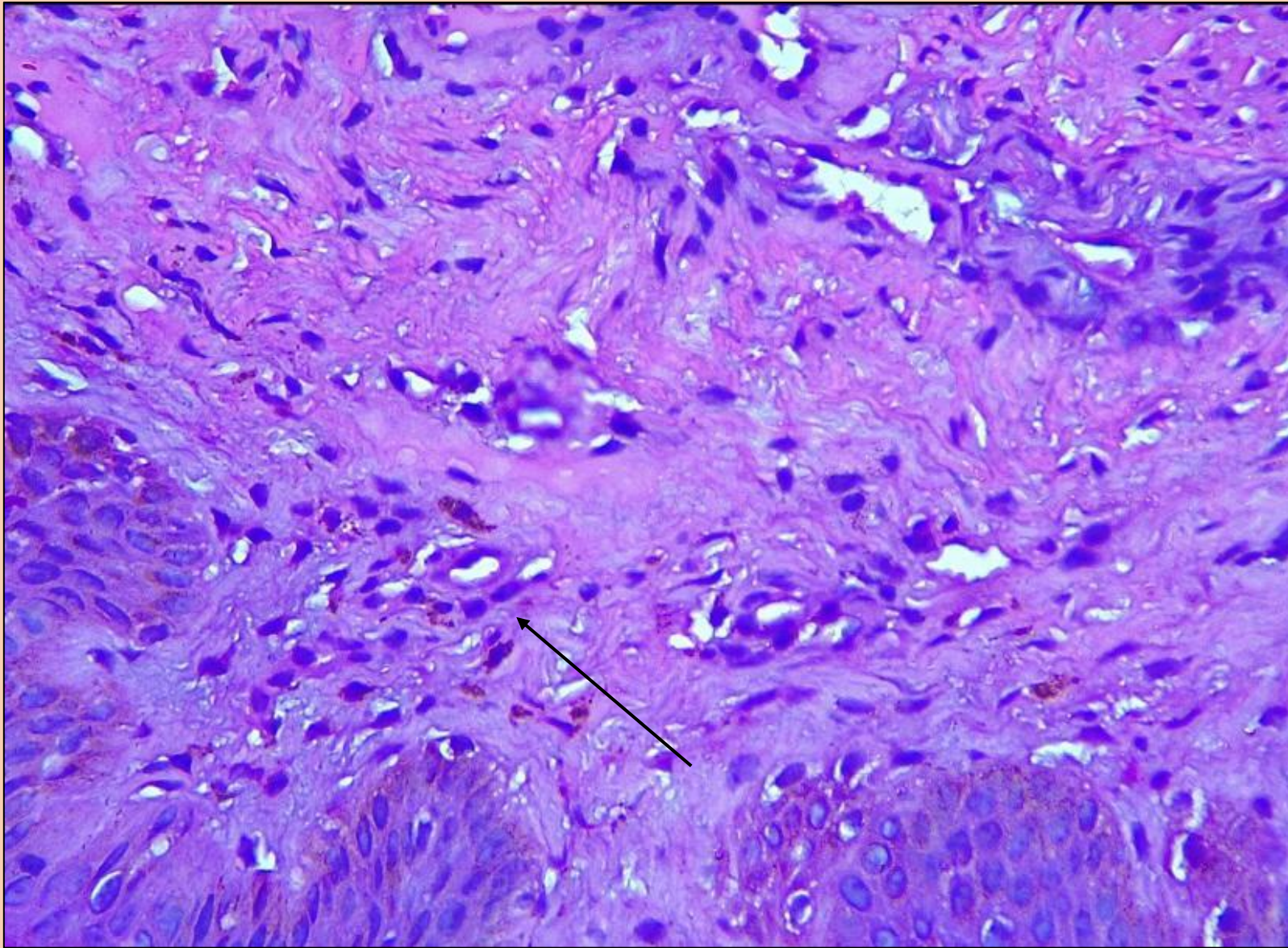
Ulcer on left breast since 2 months

	Case 1	Case 2	Case 3
	Obesity	-	-H/o I & D
Risk factors	----- Covid-19 vaccination -----		Covid-19 infection (RT-PCR+)
	10days	15days	Unvaccinated
Comorbidities	Pemphigus vulgaris [Dsg3 108.13 RU/ml]	SLE [ANA (positive) 1: 100 dsDNA ,U1-SnRNP, Ro 52/60]	Hypertension
Lab investigations	Hb 10 TLC 13200 DLC N74 E1 B0 L20 M5 ESR 53 CRP 15.5	Hb 10.3 TLC 11900 DLC N91 E0 B0 L7 M2 ESR 87 CRP 86 Urine R/M trace protein	Hb 11.1 TLC 3900 DLC N51 E4 B0 L25 M20 ESR 72 CRP 35 D dimer 4800 Urine R/M trace proteins

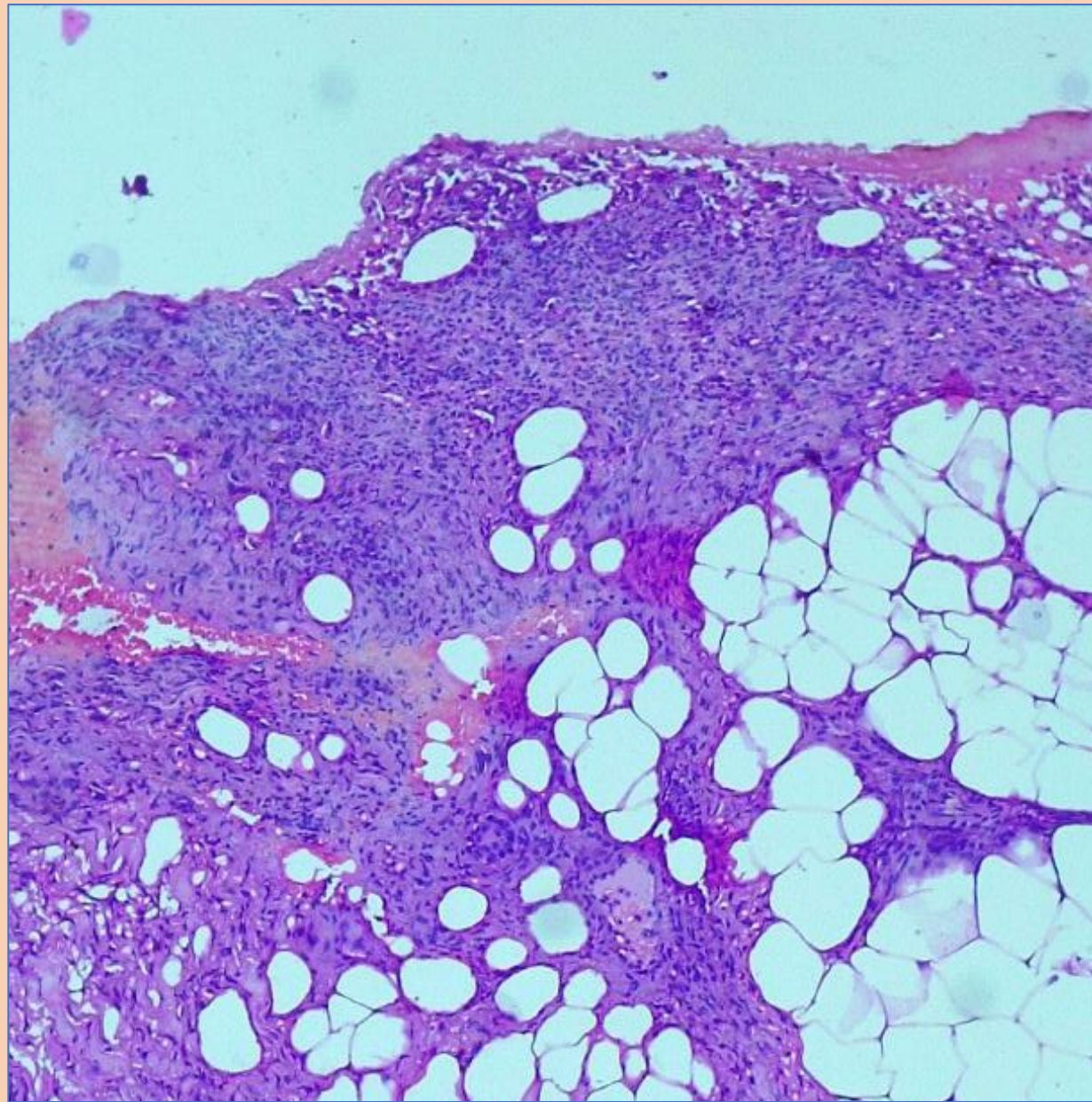
Histopathology



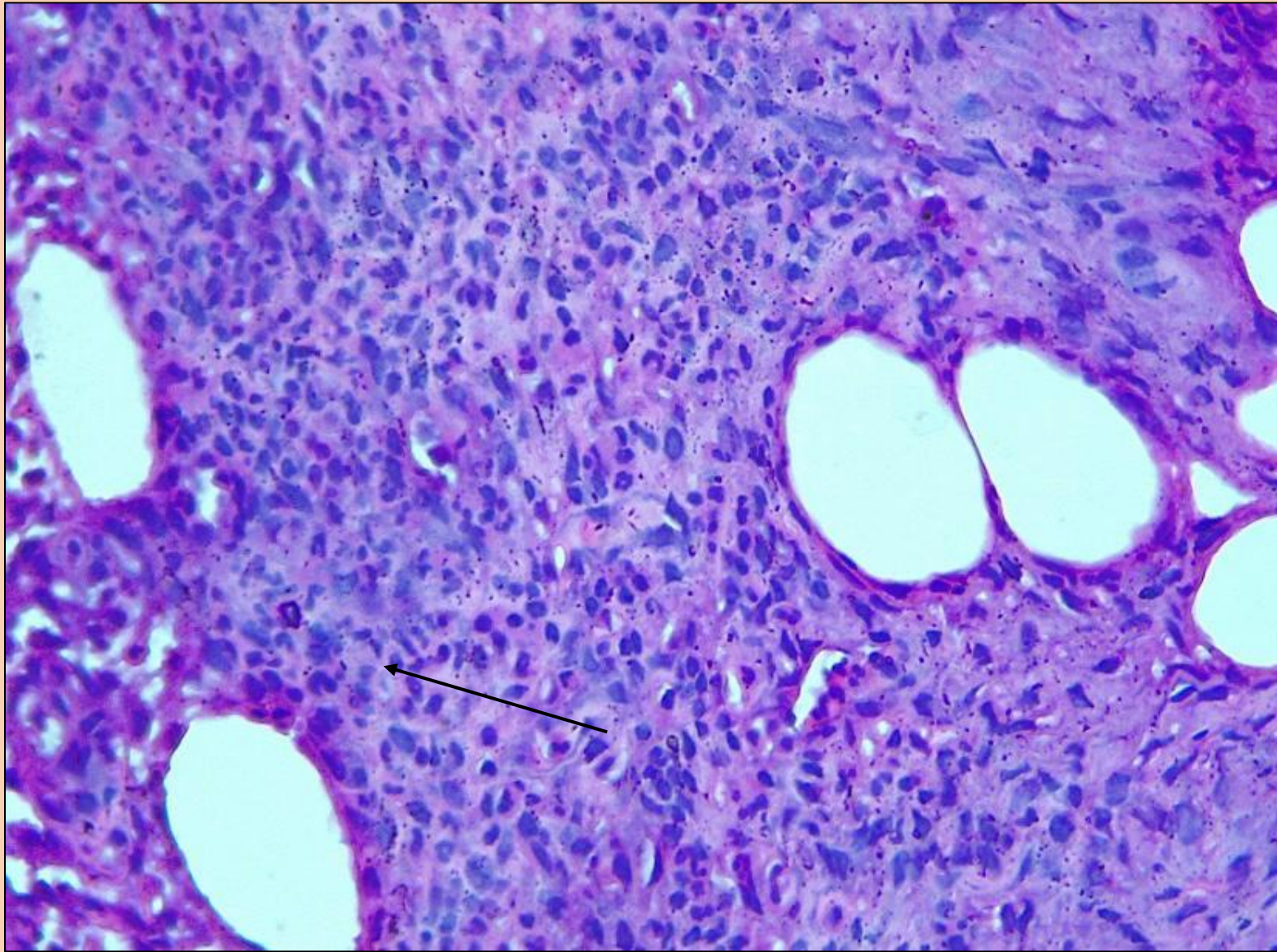
Photomicrograph of skin biopsy, (H&E STAIN, 10X)



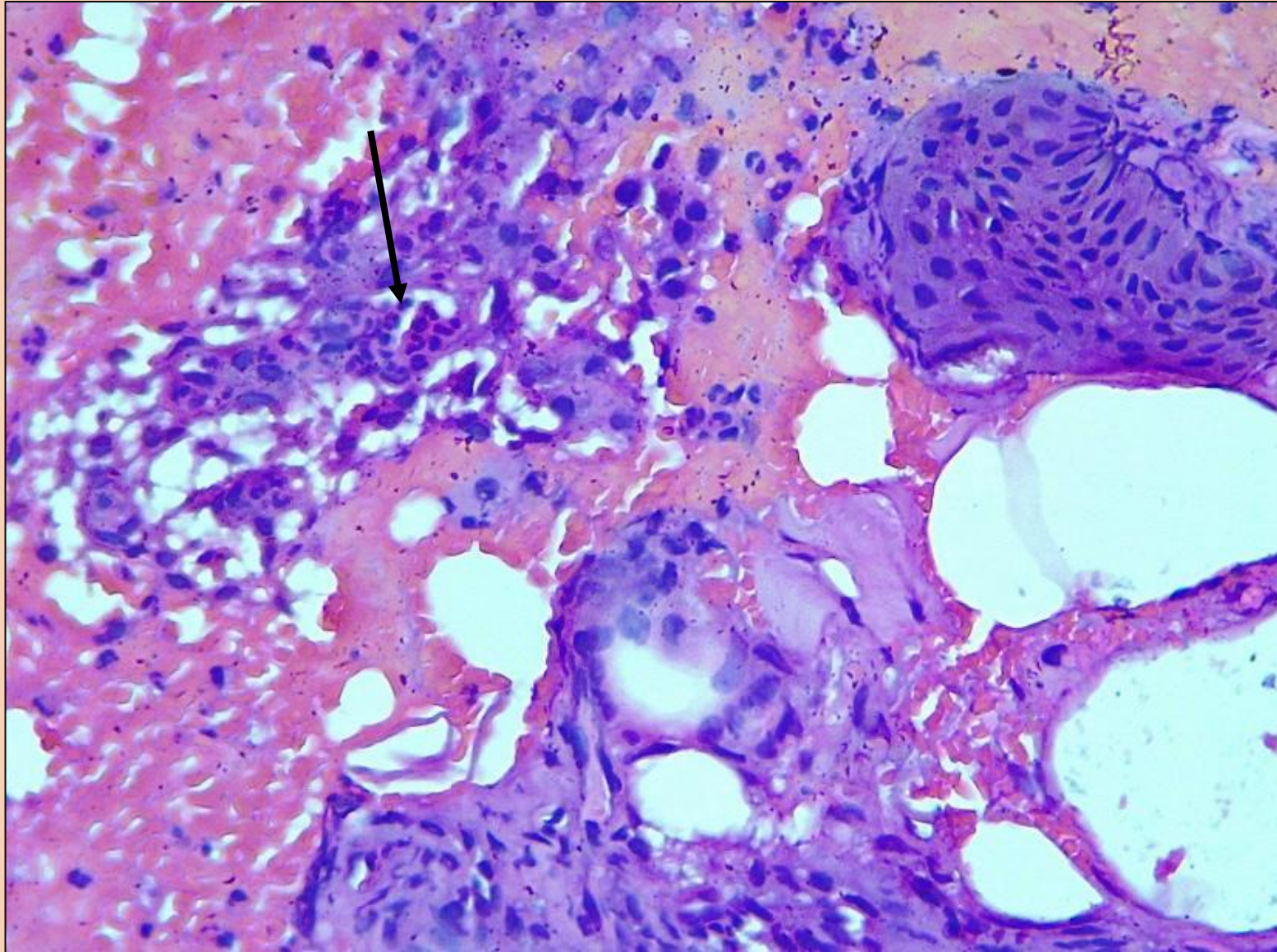
Photomicrograph of skin biopsy, showing perivascular region showing lymphocytic infiltrate. (H&E STAIN, 40X)



Photomicrograph of skin biopsy, showing deeper planes (H&E STAIN, 10X)



Photomicrograph of skin biopsy showing marked inflammatory infiltrate H&E STAIN,(40X)



Photomicrograph of skin biopsy, showing collection of neutrophils (H&E STAIN, 40X)

	Case 1	Case 2	Case 3
Treatment	<p>Prednisolone 30 mg/day PO (tapered →5 wks)</p> <p>Dapsone 100mg PO BID for 10days</p>	<p>IV Methylprednisolone 250mg/day for 3days + IV Cyclophosphamide 500mg 2weekly (6 cycles)</p> <p>HCQS 200mg/day PO</p>	<p>IV Dexamethasone 6mg/day for 6wks (tapered 4wks)</p> <p>Prednisolone 30mg/day PO for 4wks</p> <p>IL TAC 10mg/ml</p> <p>Cyclosporine 200mg/day PO for 4wks (discontinued)</p> <p>Lugol's Iodine</p>

Regression of lesions

Case 1



Day 7



Day 14



Day 21



Day 28



Day 35

Case 2



Day 30

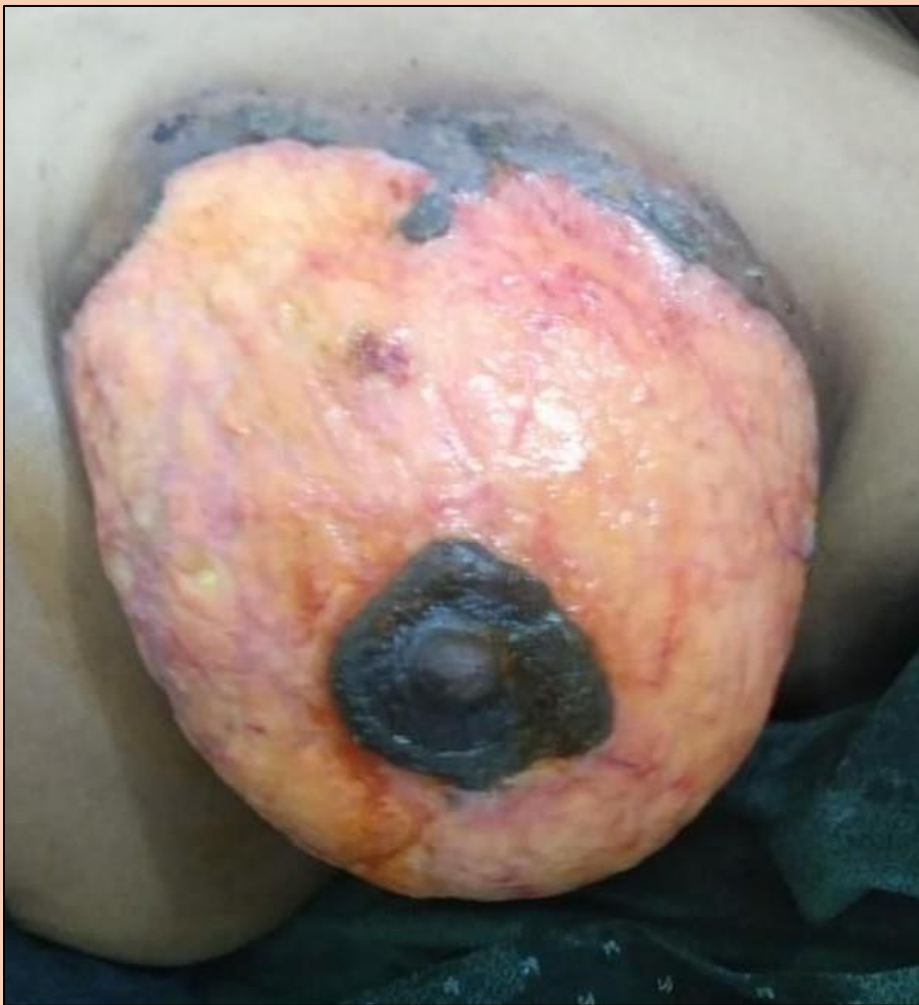


Day 60

Case 3



Day 15



Day 30



Day 75

Discussion

Clinical variants

- Ulcerative
- Vesiculobullous



- Pustular



- Vegetative



- Pyostomatitis



Diagnostic criteria

Major criteria : 1) **Rapid** progression of **painful**, necrolytic ulcer with irregular, violaceous and undermined **border**

2) Other causes of cutaneous ulceration have been **excluded**

Minor criteria : 1) H/o **pathergy** / cribriform scarring

2) Systemic disease **associations**

3) **HPE** (sterile dermal neutrophilia, \pm mixed inflammation, \pm lymphocytic vasculitis)

4) Treatment response (rapid **response** to systemic **corticosteroids**)

Differential diagnosis

Vascular:

- Venous stasis
- Vasculopathy
- Arterial occlusive disorder, Vasculitis, APLAs

Infection:

- Bacterial (Ecthyma gangrenosum) ,
- Mycobacterial /atypical mycobacterial ,
- Deep fungal infection (Blastomycosis, sporotrichosis, aspergillus, cryptococcus),
- Rarely- tertiary syphilitic ulcer, amoebiasis, herpes

Drugs :

- Hydroxyurea
- Halogenoderma

Others :

- Dermatitis artefacta
- Calciphylaxis
- Necrotizing insect bite
- Malignant rheumatoid disease
- Cutaneous lymphoma

Associations

- **IBD (20-30%)** - Crohn's disease and ulcerative colitis
- **Inflammatory arthritis (10%)**
- **Hematological d/o (5-7%)** - Monoclonal gammopathy, acute myelocytic leukemia, myelodysplastic syndrome, polycythemia vera, essential thrombocytosis, myelofibrosis, leukemoid reaction, Hodgkin lymphoma, non-Hodgkin lymphoma, cutaneous T-cell lymphoma

- **Visceral malignancy** – Breast, ovaries, bladder, prostate, colon,
(5%) carcinoid, bronchus
- **Hidradenitis suppurativa**
- **Drugs** - Granulocyte-colony stimulating factor

Correlation of Covid-19 infection/Covid-19 vaccination with pyoderma gangrenosum

- PG is associated with increase in pro-inflammatory cytokines (IL-12, IL-23, IL-6, TNF α ,)
- Increased secretion of pro-inflammatory cytokines (IL-1, IL-2R, IL-6, TNF α) also plays a role in covid-19 infection and in response to covid-19 vaccine.
- Dysregulation of JAK-STAT pathway which has also been implicated in PG, plays a major role in covid-19 infection.
- Covid-19 spike protein may serve as an immune trigger for PG.

Literature reviews

- Covid-19 :- Infection → 8 cases prior to PG (1 breast)
Vaccination → 6 cases (none on breast)
- Breast PG → 146 cases (70% associated surgical intervention)
- SLE → 23 cases (none on breast)
- Pemphigus vulgaris → 1 case (lower limb)

thank
you



Comparative study
“ Microneedling / Microdermabrasion ”
with 20% vitamin C serum in Females
with
Periorbital Melanosis

Dr. Sriveni Bolisetti

Periorbital melanosis - cosmetic concern and difficult-to-treat entity.



Aim:

To compare the efficacy of microneedling (MiN) with vitamin C serum and microdermabrasion (MDA) with vitamin C serum in the treatment of POM.

Selection of patients:

60 female pts (20-50 yrs) with POM randomly divided -2 groups -30 each

Exclusion criteria :

- Chronic debilitating disease
- Generalized pigmentation of the face
- Pregnancy

Pre-procedure:



- **Priming** done with **vitamin C** serum application once daily at night for **7 days**.
- Strict photoprotection

Schedule :

Both procedures repeated @ interval of **21 days** for **4 sittings**.

Post-procedure :

- Photoprotection
- Adequate sleep
- Reduce screen time

Regimen 1

Topical anesthetic



Dermaroller 0.5mm

rolling - horizontally and
vertically



Vit.C serum (1ml,20%)
applied @ periorbital area



Regimen-2

MDA - *diamond probe*



Two passes

@20mm Hg pressure



Vit.C serum (1ml,20%)
applied periorbital area



Grading of response

Improvement was graded every 3 weeks as :

I - Slight (<25%)

II - Moderate (25-50%)

III - Obvious (50-75%)

IV - Marked (>75%)

Finally, the results were analyzed and compared.

Comparison

Improvement grade	MiN with Vit.C serum		MDA with Vit.C serum	
	No. of pts.	%	No. of pts.	%
I	7	23.3	14	46.7
II	8	26.6	11	36.7
III	13	43.3	5	16.7
IV	2	6.6	-	-
Total	30		30	

Microneedling with vitamin C serum



BEFORE



AFTER 12 WEEKS



BEFORE



AFTER 12 WEEKS

Microdermabrasion with vitamin C serum



BEFORE



AFTER 12 WEEKS



BEFORE



AFTER 12 WEEKS

Discussion

- The tendency of POM to **respond poorly** to treatment is widely acknowledged.
- The **result** of the treatment of the skin with dark circles is most often **gradual** and **rarely durable**.
- Since the physiopathology of this type of hyperpigmentation involves **individual predisposition** to pigmentation along with the **vasodilating phenomena**.

Causes

Endogenous	Exogenous
<ul style="list-style-type: none">• Genetics• Excessive vascularity• Advanced age• Vitamin K deficiency• Facial anatomy• Chronic sinusitis• Local swelling	<ul style="list-style-type: none">• Allergies (contact and airborne)• Fatigue• Post inflammatory hyperpigmentation• Hormonal therapy• Sun exposure

Patterns of
periorbital
melanosis can
pertain to

```
graph TD; A[Patterns of periorbital melanosis can pertain to] --> B[Pigmentation]; A --> C[Vasculature]; A --> D[Skin markings]; B --> E[Post inflammatory and Constitutional type]; C --> F[Vascular and Post steroid abuse type]; D --> G[Post steroid abuse, Atopic diathesis and Constitutional type];
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Pigmentation



Post inflammatory and
Constitutional type

Vasculature



Vascular and
Post steroid
abuse type

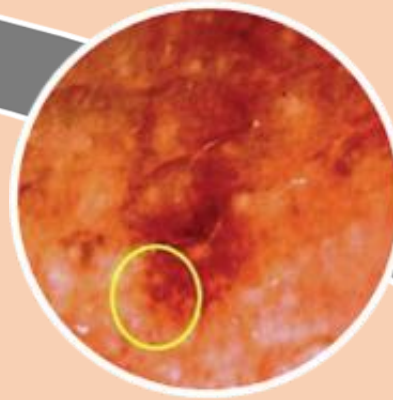
Skin markings



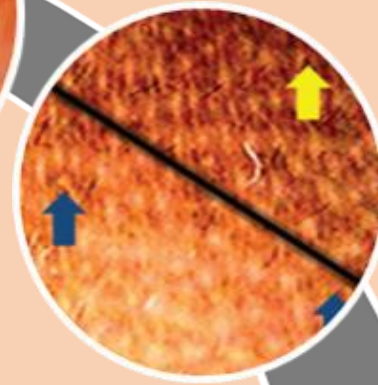
Post steroid abuse ,
Atopic diathesis
and Constitutional
type

Patterns of pigmentation

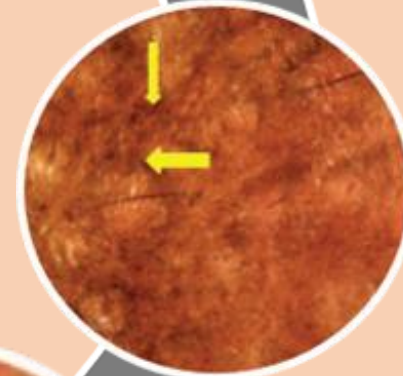
Blotches



Exaggerated pigment network



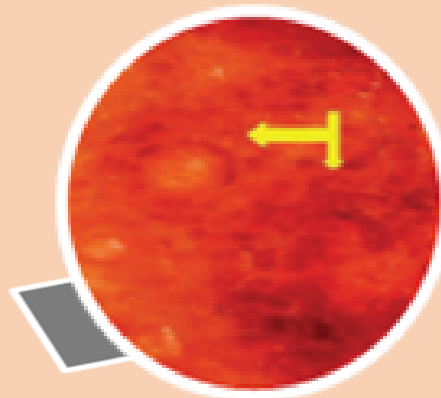
Coarse speckled



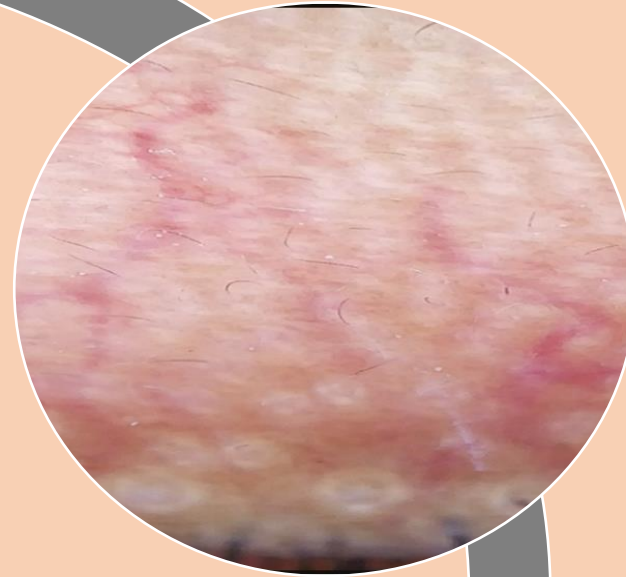
Fine speckled



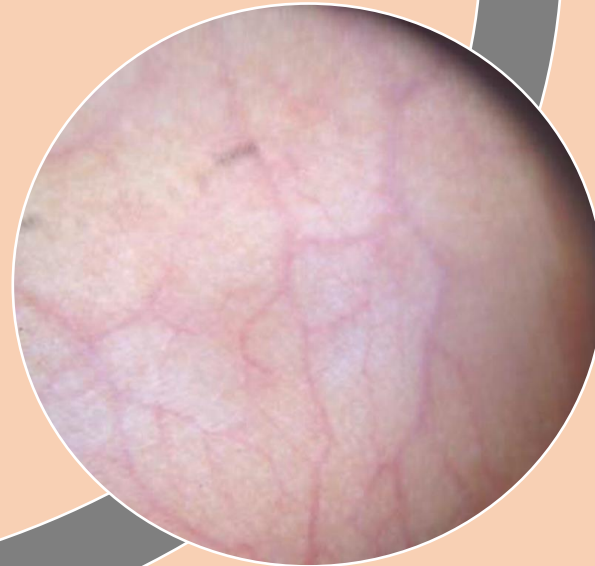
Globules



Patterns of vasculature



Telangiectasia



Superficial
dilated veins

Patterns of
skin
markings



Atrophy



Exaggerated
skin markings

Vascular

A variety of pathologic and age-related processes



↑ permeability of the local vasculature



extravasation of hemoglobin breakdown products
such as hemosiderin and biliverdin



visible pigmentation changes

Dermaroller 0.5mm



Mechanism of action – Triphasic

Inflammatory phase - 1-2 days

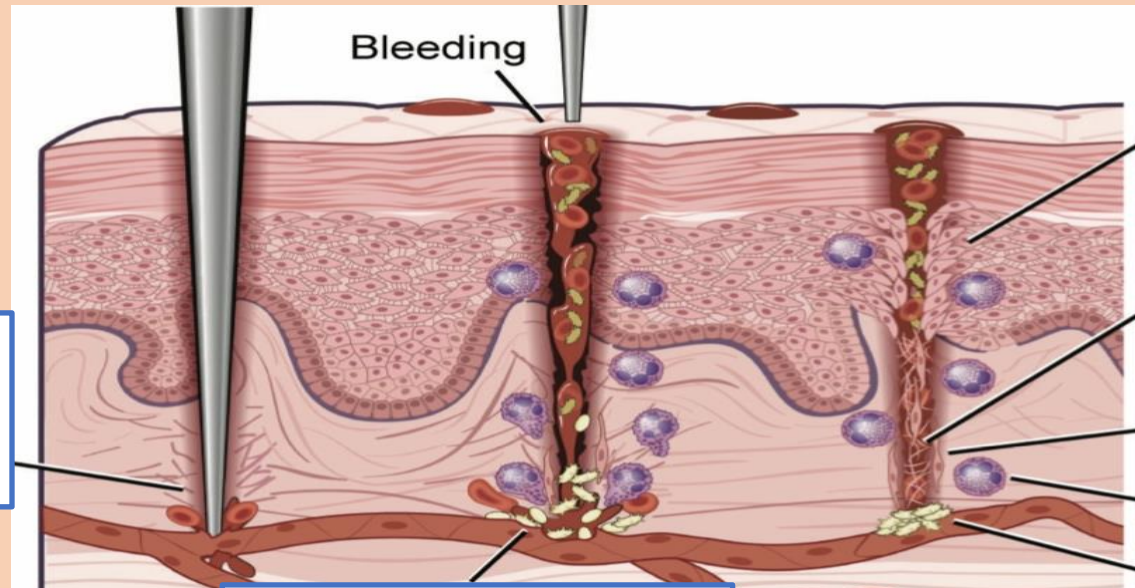
Proliferative phase

Remodelling phase

Inflammatory phase

Microneedle penetration
upto upper dermal layer

Damaging
vessels and
collagen



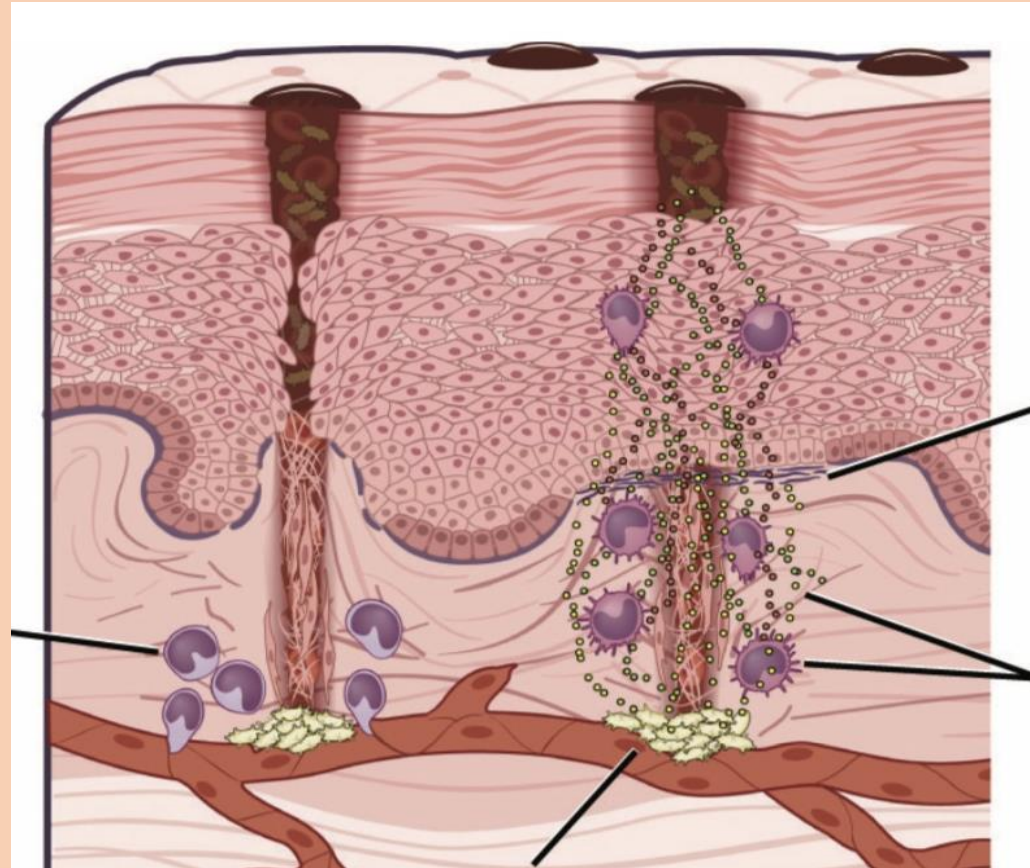
Keratinocyte
migration

Fibroblast chemotaxis
and proliferation

Release of platelets
and neutrophils

Proliferative phase – 2-4 days

Monocytes
infiltrate
replace
neutrophils

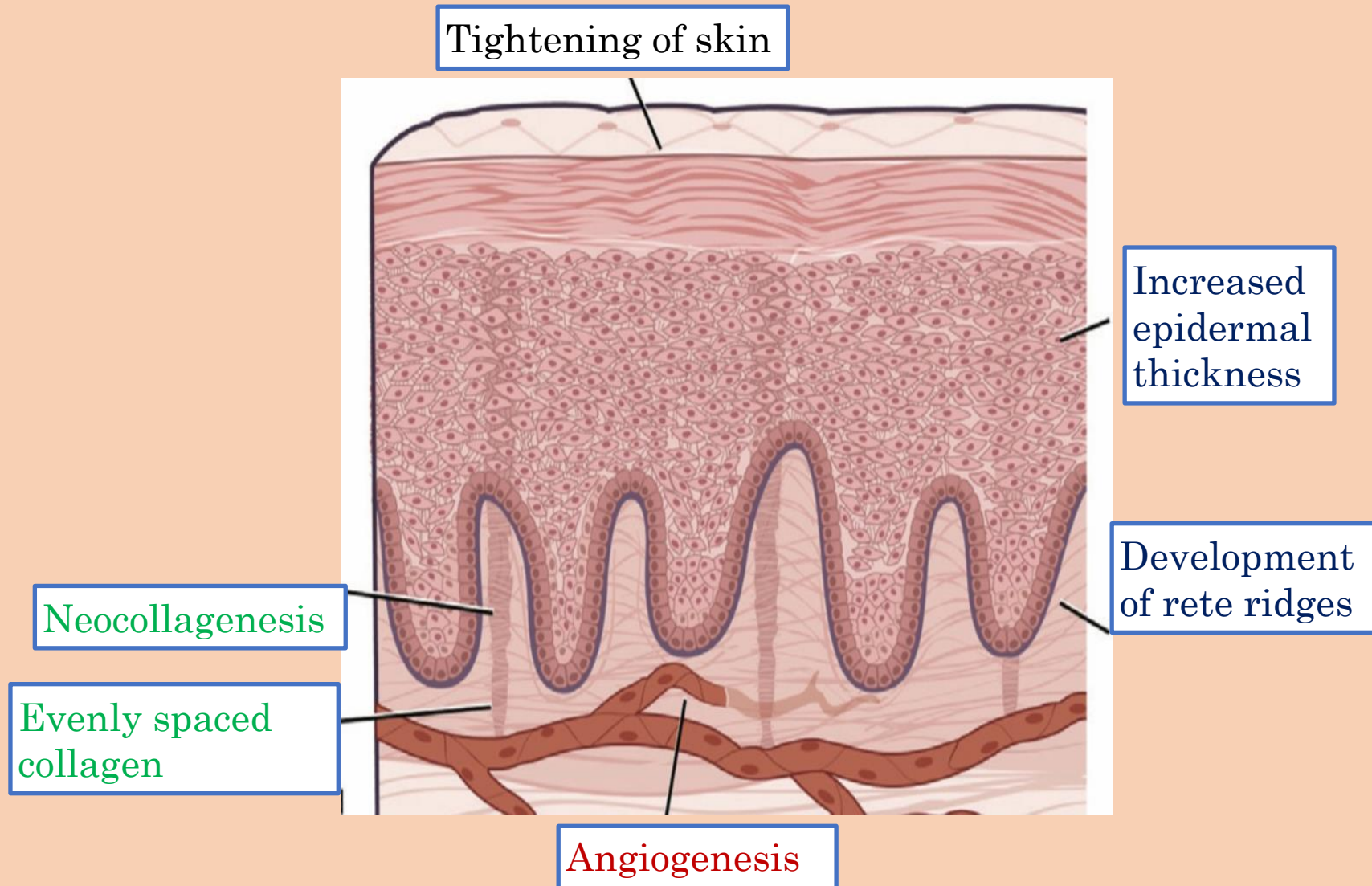


Keratinocytes
re-establish
basement
membrane

Monocytes
transform
into **M ϕ** and
release GF

Platelets release GF

Remodelling phase – 5-24 days



Microdermabrader



Microdermabrasion



Exfoliation



Cellular growth

Conclusion

- At the end of 3 months, pigmentation showed improvement with both MiN with vitamin C serum and MDA with vitamin C serum.
- Though **microneedling** with Vit.C serum was more effective , the same was not statistically significant.
- Larger studies are needed to know better about the outcome.



thank you

