
UNIT 1 ASSESSMENT OF DERMATOLOGICAL SYSTEM IN ELDERLY

Structure

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1.0 OBJECTIVES

After undertaking the activities, you should be able to:

- Describe the art of history taking in the evolution of skin lesions and its progression.
- Perform a detailed dermatological assessment which includes examination of skin from head to toe, hair, nails, and mucous membrane.
- Diagnose common skin conditions based on the morphology of the lesions
- List specific dermatological investigations and indications for the referral to a dermatologist for further management.
- Refer relevant cases to a dermatologist for further management

1.1 INTRODUCTION

When an elderly patient presents to a physician with a skin related issue-there are several points to be considered, both in history taking and examination of the patient.

A detailed knowledge of this process is considered mandatory in the clinical setting. This chapter can equip the student with the clinical skills required. It

can also guide the student on the need to refer the patient to a dermatologist in relevant cases.

1.2 HISTORY TAKING

History taking in geriatric dermatology is an art of extracting the details of the skin ailments in the elderly individual to arrive at a clinical diagnosis. It is preferable to elicit the history in the presence of a caretaker in the elderly, as there may be issues of senile dementia and hearing loss. A brief conversation on the demographic profile of the patient helps build a good rapport with the elderly and may aid in gaining their confidence. The chief complaints with which the elderly individuals visit the dermatologist are:

- Pruritus
- Rash
- Fluid filled /pus filled blisters.
- Growth on the skin / mucosa.

Pruritus: Pruritus is the most common complaint we encounter in the elderly individuals. It may be due to various causes from dryness of skin to any systemic diseases like chronic kidney disease, hyperbilirubinemia, anemia, and hypothyroidism. The following details need to be elicited, whenever there is pruritus without rash.

- When did it start?
- Where is the itching?
- What is the type of sensation? Pricking, crawling, burning, or stinging
- How is the intensity of itch?
- How often does the patient feel the itch?
- What makes it worse or better?

Additional history of bathing habits, skin care, use of alternative topical medicines, drug intake, occupation, hobbies, dietary habits, travel history should be taken.

Rash: Rash on the skin may be scaly/non-scaly/erythematous/hypopigmented/depigmented/ hyperpigmented. Scaly lesion in the elderly may be due to dryness of skin, infections or chronic papulosquamous disorders like eczema and psoriasis. Erythematous or pigmentary lesions are seen in conditions like lichen planus or vitiligo. Most of the times, rashes can be associated with pruritus. The following points are to be noted.

Did You Know?

Pruritus is unpleasant sensation of the skin which provokes a person to scratch. Lichenification on the skin is an indicator of chronic pruritic condition.

- onset of skin lesions.
- location of skin lesions.
- progression of skin lesions.
- changes in the color of the lesions.
- aggravating and relieving factors.
- seasonal variation of skin lesions.
- any associated systemic symptoms should be elicited.

Fluid filled /pus filled lesions: The appearance of fluid filled lesions in the elderly is seen in drug reaction, autoimmune blistering conditions, eczema, and viral infections such as herpes simplex and herpes zoster. These blistering conditions in the elderly are associated with itching, fever, or pain at the site of eruption. The history should include the following points.

- onset of vesicles or blisters.
- evolution of the lesions.
- appearance of lesion on normal skin or on erythematous background.
- Progression and distribution of lesions.
- associated symptoms like fever, pain, and oro-genital lesions.
- history of drug intake or irritant applications.
- aggravating and relieving factors.

Growth on the skin and mucosa: The history of any growth on the skin of the elderly needs to be evaluated in detail. This growth may be benign or malignant; hence the following points in history are to be noted:

- Duration of growth /swelling.
- Site of the lesion.
- Size of the lesion in the beginning.
- Progression of the lesion.
- Any change in the surface, texture of the lesions.
- Any change in color or bleeding from the lesions.
- Family history of skin malignancies suggestive of basal cell carcinoma, squamous cell carcinoma, malignant melanoma.

1.3 PERSONAL HISTORY

History of dietary habits, sleep pattern, bowel and bladder movement need to be elicited to identify any association with the presenting complaints. A detailed history of daily routine including occupation, hobbies, habits (smoking/ alcohol/tobacco chewing) should be taken. A detailed history of daily medication needs to be noted.

Check Your Progress 1

- 1) Pruritus in the elderly can be due to:
 - a) Wrinkling of skin
 - b) Xerosis
 - c) Reduced fluid intake
 - d) Lack of sleep
- 2) Any growth on the skin of an elderly patient always indicates malignancy. (True / False)
- 3) A history of fluid filled lesions on the skin could indicate.
 - a) Skin tag
 - b) Psoriasis
 - c) Seborrheic keratosis
 - d) Bullous pemphigoid

1.4 EXAMINATION

Examination of the elderly begins with observing them from head to toe as they enter the consultation room.

1.4.1 General Examination

This includes examining the patient for any presence of pallor or icterus, pedal edema, and lymphadenopathy. It also includes overall assessment of consciousness and orientation of the patient.

1.4.2 Examinations of Skin hair and Mucus Membrane

The dermatological examinations include examination of:

1. Skin from head to toe.
2. Palms and soles
3. Oro-genital mucosae, conjunctival mucosa
4. Nails
5. Hair

The dermatological examination includes mainly inspection and palpation of the skin lesions.

Inspection: The cutaneous examination starts with the description of lesions as primary and secondary skin lesions.

a) Primary skin lesions: These are the skin lesions which are first to appear on the normal skin. They are initial presentation of the disease. These include

- **Macule:** These are flat, non-palpable circumscribed lesions <1 cm in diameter and differ in color and texture from surrounding skin.
- **Patch:** These are flat, non-palpable circumscribed lesions >1 cm in diameter and differ in color or texture from surrounding skin.
- **Papule:** These are elevated circumscribed lesions <1 cm in diameter, due to increased thickness of epidermis and or cells or deposits within the dermis.
- **Plaque:** These are elevated circumscribed lesions >1 cm in diameter, due to increased thickness of epidermis and or cells or deposits within the dermis.
- **Nodule:** These are palpable, circumscribed > 1 cm involving the dermis and /or subcutis
- **Vesicle:** These are elevated circumscribed < 1 cm in diameter filled with fluid (clear, serous, or hemorrhagic).
- **Bulla:** These are elevated circumscribed >1 cm in diameter filled with fluid (clear, serous or hemorrhagic).
- **Pustule:** These are elevated circumscribed < 1 cm in diameter from its onset filled with purulent fluid.
- **Abscess:** It is localized collection of pus in deeper dermis or subcutis.
- **Cyst:** It is an encapsulated lesion with epithelial inner lining containing usually semisolid material.
- **Petechiae:** These are pinpoint (<1mm) non blanchable macule resulting from extravasation of blood.
- **Purpura:** These are non-blanchable erythematous macule > 1 mm, resulting from extravasation of blood.
- **Ecchymoses:** They are large, bruise like patches due to extravasation of blood.
- **Telangiectasia.** Permanent dilatation of dermal capillaries arising from arterioles or venules, visible as fine red or blue streaks.

b) Secondary lesions: These are the skin lesions which appear on the primary skin lesions. They develop because of modification in the primary lesions during the course of the disease. These include:

- Scale: Visible flakes of stratum corneum of the skin.
- Crust: Dried up serum, blood, or purulent exudates on the skin surface.
- Erosion: An erosion is a defect only of the epidermis, not involving the dermis.
- Ulcer: Loss of continuity of the skin resulting from loss of epidermis and superficial dermis which usually heals with scarring.
- Fissure: A linear loss of continuity of skin. It can be superficial or deep.
- Excoriation: Superficial loss of epidermis secondary to scratching.
- Lichenification: Accentuation of skin marking with hyperkeratosis and hyperpigmentation due to repeated rubbing of the skin.
- Atrophy: Thinning of some or all layers of the skin.
- Scar: Replacement of tissue by fibrous tissue following injury.

c) Specialized lesions: These lesions are very specific for certain skin diseases. These are:

- Burrow: It is a linear intraepidermal tunnel produced by fibrous tissue. It suggests the presence of scabies.
- Wheal: It is a circumscribed red edematous transient lesion that commonly lasts < 24 hrs. It is usually seen in urticaria.
- Comedone: It shows a plug of keratin and sebum in dilated hair follicular infundibulum. It suggests acne.
- Target lesion: It shows concentric zones of dark or blistered center surrounded by pale area and rim of erythema. It suggests drug eruption.
- Milia: A tiny white cyst containing keratin.

Further, the pattern of distribution of skin lesions, morphology of individual lesions is identified.

Distribution of skin lesions: the lesions can be localized or generalized, symmetrical or asymmetrical. Some other distribution patterns are segmental, dermatomal, seborrheic, photo exposed area, follicular and bizarre.

Morphology of the lesions: the primary and secondary lesions are described based on the color, size, shape margin and surface of the lesions. The arrangement of the lesion such as grouped, linear, annular, reticulate is identified.

Palpation: On palpation of the lesions, we can assess the texture, temperature, tenderness, and consistency of the lesions. Nodules and cyst can be differentiated on palpation where in nodules are firm and cysts are soft in consistency. On palpation, the epidermal atrophy feels like parchment paper, whereas sclerosis has a woody hard feeling.

Examination of oro-genital mucosae: In the elderly, diseases such as vesiculobullous disorders, lichen planus, drug reactions are often associated with oro-genital mucosae involvement in the form of erosion, ulcer, or whitish patches or plaques. There may be associated candidial infections due to the disease per se or associated comorbidities.

Examination of nails and hair: The assessment of nails and hair completes the dermatological examination. Nail examination includes assessment of nail plate, nail bed and periungual area. Hair examination includes assessment of hair density, texture, and any scalp changes such as scaling, erosion, or growth.

1.5 INVESTIGATIONS

After detailed assessment of cutaneous lesions, bedside test such as, wet mount, KOH examination, tzanck smear and gram stain can be performed if facilities are available. Diascopy test can be performed when there is an erythematous rash. A clean glass slide is pressed on the lesions. The lesions are observed for blanching. If the lesions are not blanching, then it suggests there is bleeding from the blood vessels as seen in petechiae, purpura, and ecchymosis.

Whenever there is a doubt, the case may be referred to the dermatologist.

1.6 ALGORITHMS AND DIFFERENTIAL DIAGNOSIS

The algorithms in **Fig. 1.1** and **Fig. 1.2** can be used to evaluate the geriatric patient with pruritus and rash. **Fig. 1.3** can be used to evaluate a Geriatric Patient with dermatological emergencies

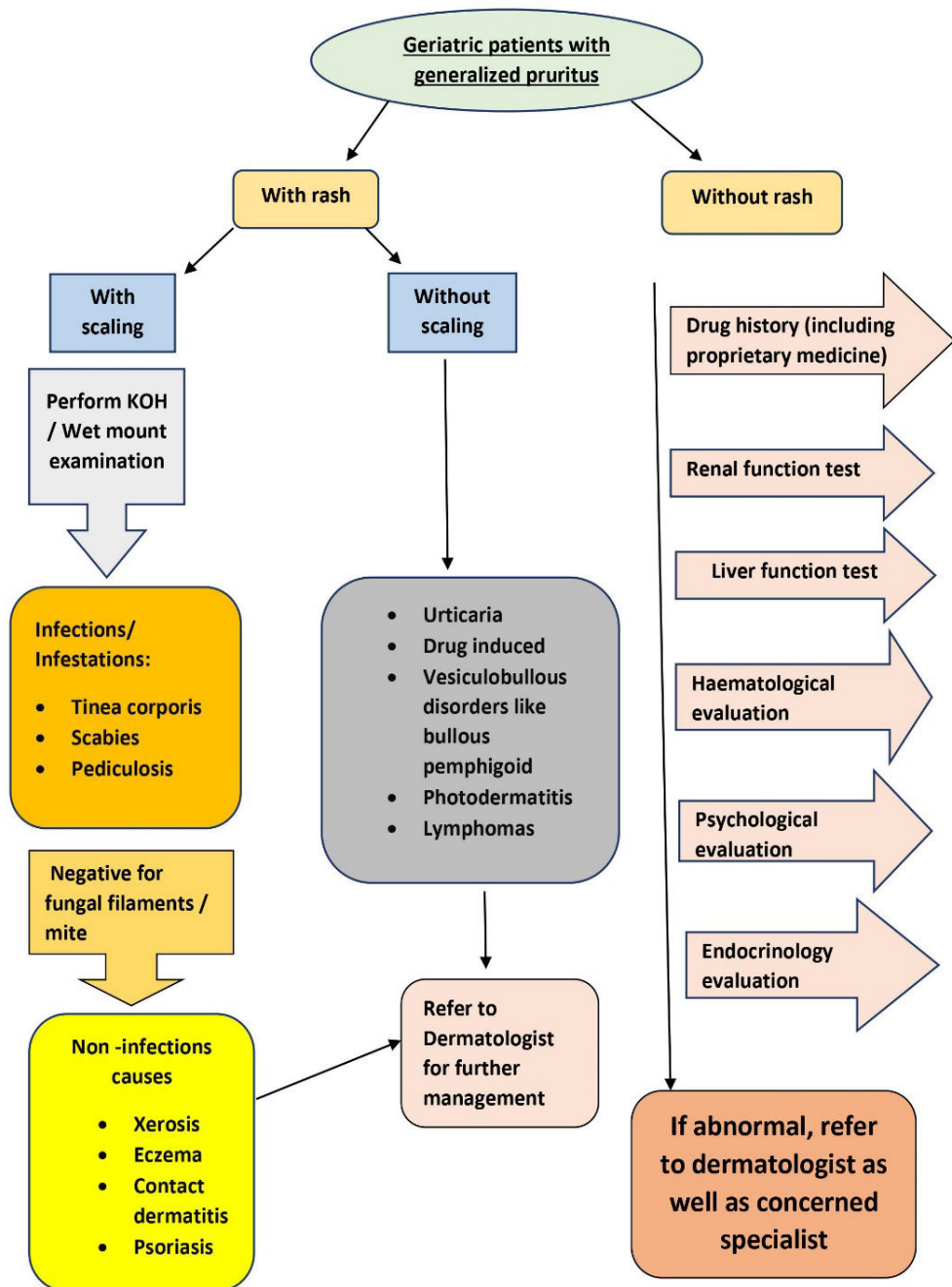


Fig. 1.1: Algorithm to Evaluate a Geriatric Patient with Pruritus

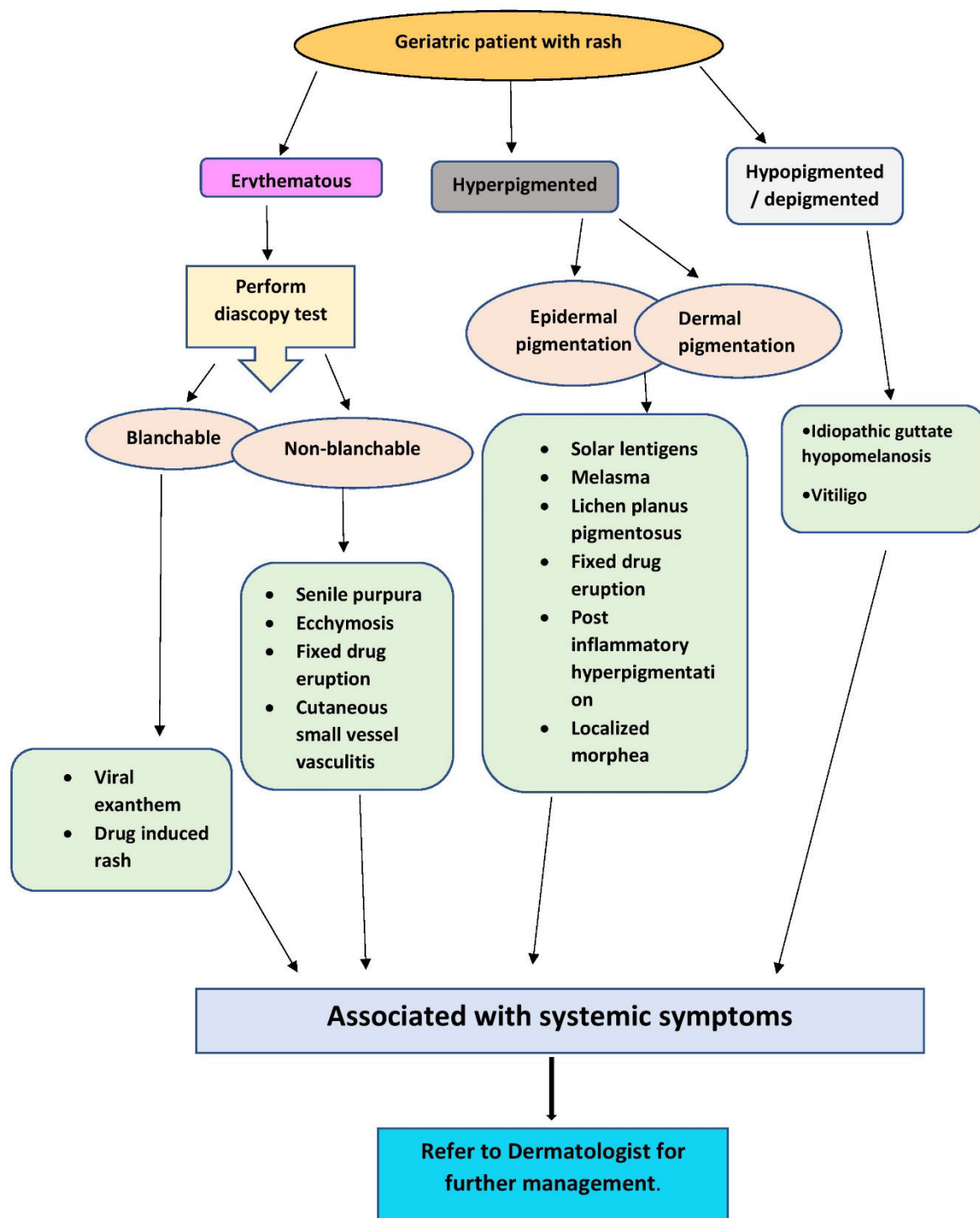


Fig. 1.2: Algorithm to Evaluate a Geriatric Patient with Rash

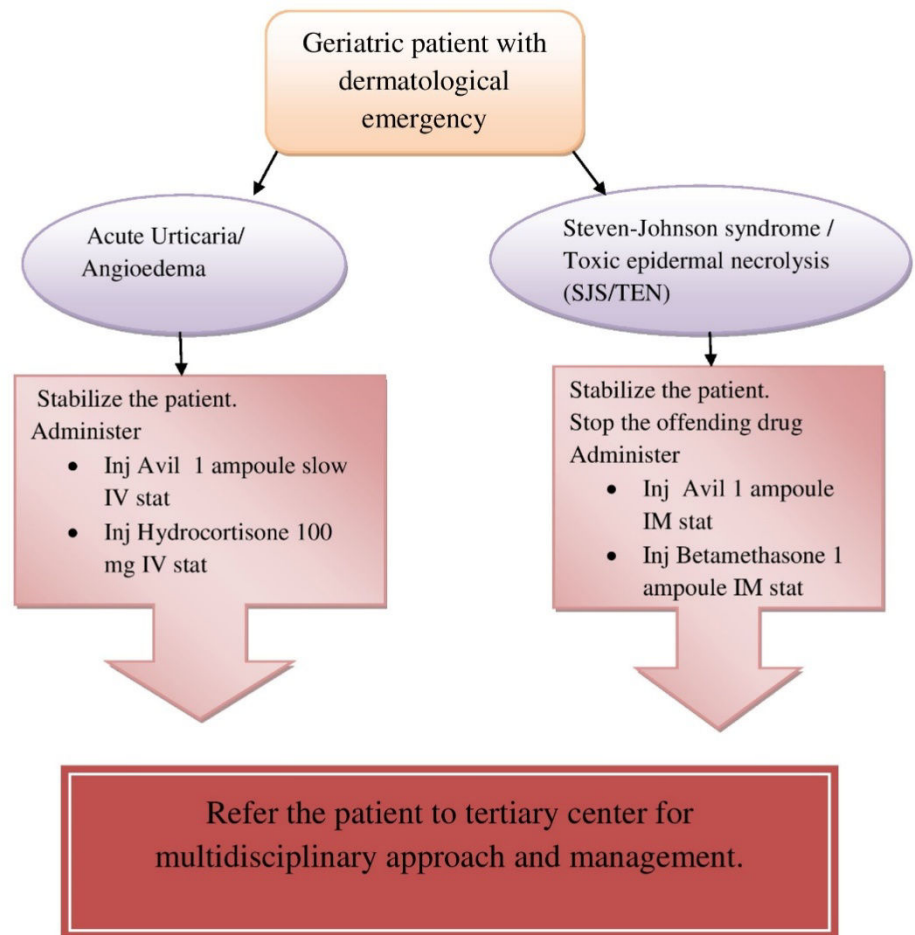


Fig. 1.3: Algorithm to Evaluate a Geriatric Patient with Dermatological Emergency

1.7 CASE STUDIES

1) A senior citizen male comes with severe itching all over the body since several months. There was no history of drug intake. On examination his skin showed dryness and scratch marks on the trunk and legs. Name the systems you would like to examine and why?

2) A 70 yr old female comes with history of development of itchy papules on the upper limbs since a year. Lately she has developed oral lesions. On examination there were erythematous to violaceous papules on the skin, the mouth showed white lacy pattern plaque on buccal mucosa. The differential diagnosis includes

- a) Psoriasis
- b) Chronic eczema
- c) Lichen planus
- d) Allergic contact dermatitis due to hair dye.

- 3) A 60 yr old male complaints of recurrent boils in the axillae and buttocks. What would you like to evaluate in the patient?
- thyroid dysfunction
 - diabetes mellitus
 - hypertension
 - connective tissue disorder.
- 4) A 80 yr old male, farmer by occupation complains of a slowly growing blackish growth on his forehead, that occasionally bleeds on touch, what are the possibilities ? what should you do?

1.8 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress 1

- b
- False
- d

Case studies:

- The patient should be evaluated for any renal, hepatic causes and any blood dyscrasias.
- c
- b
- Based on the history of increase in size and bleeding, there are signs suggestive of malignancy. Hence some of the differentials are bowen's disease, basal cell carcinoma, squamous cell carcinoma and malignant melanoma. The case should be referred to dermatologist /surgical oncologist for further management.

Atlas of primary lesions:



Fig 1. Erythematous papule on the back.



Figure 2. Erythematous Plaque



Figure 3. Depigmented patch with hyperpigmented macules in the center



Figure 4. Grouped vesicles in the dermatomal pattern.

Atlas of secondary lesions :



Figure 1. Thick scaling in a case of psoriasis.



Figure 2. Ulcer on right foreleg

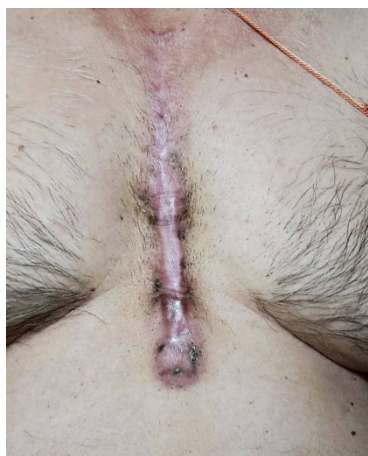


Figure 3. Keloid -example of a scar.



Figure 4. Crusted plaque.