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"Help, I Think I'm Going Crazy!": An approach to pruritus in the elderly

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Indigenous Land Acknowledgement

- We wish to acknowledge the Ancestral Traditional Territories of the Ojibway, the Anishnabe and, in particular, the Mississauga's of the New Credit whose territory we are gathered on today. This territory is covered by the Upper Canada Treaties.

Presenter Disclosure

- **Presenters:** Dr. Danielle Mintsoulis and Dr. Saadia Hameed

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  - **Other:** None

Objectives

At the conclusion of this session, participants will be able to:

- Perform an initial evaluation (history, physical examination, investigations) to determine the underlying etiology of pruritus.
- Describe the common dermatological and non-dermatological differential diagnoses of the elderly patient with pruritus.
- Implement non-pharmacological and applicable pharmacological treatments for the management of pruritus.

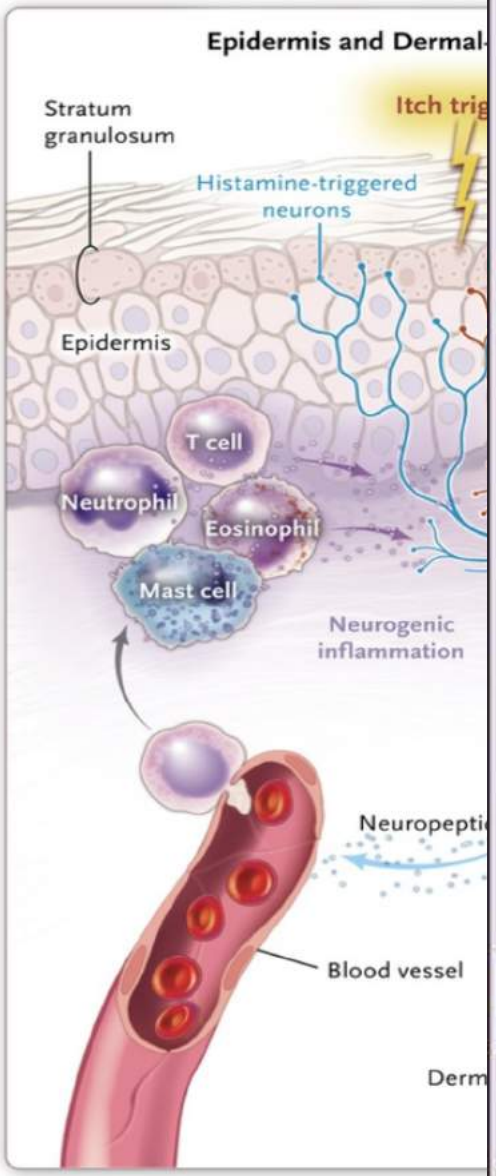
Neurobiology of Pruritus

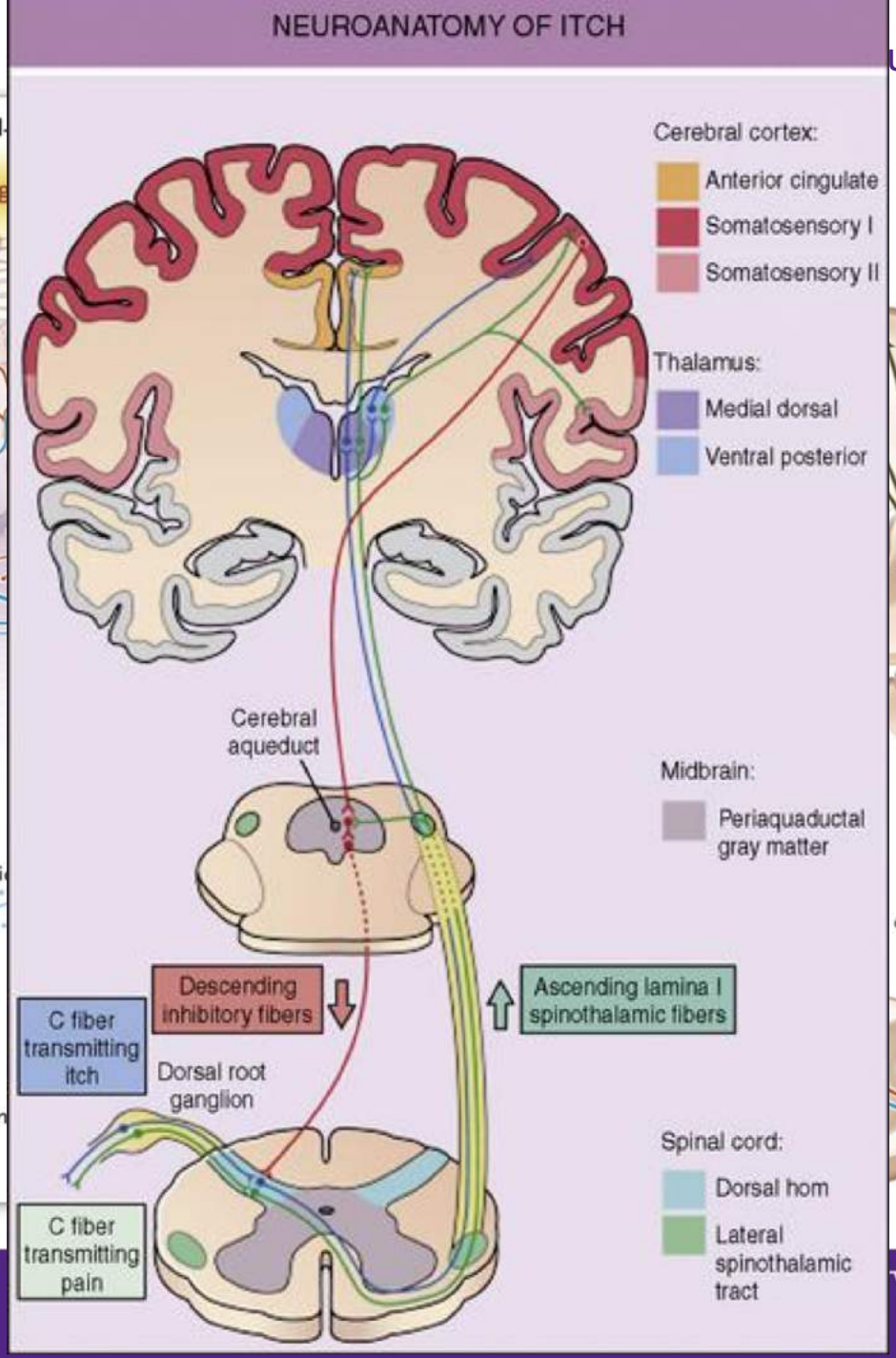
What is pruritus or itch?

Pruritus

BACKGROUND

This is an updated version of the original Cochrane review published in 2013 (Issue 6), on "pharmacological interventions for pruritus in adult palliative care patients". Pruritus, derived from the Latin word *prurire*, which means 'to itch', is defined as "an unpleasant sensation associated with the desire to scratch". This definition of pruritus was introduced in 1660 by the German physician Samuel Hafenreffer (Haffenreffer 1660; Misery 2010; Proske 2010). In modern medicine, the term pruritus is generally used to refer to a pathological condition in which the sensations of itch


Epidermis and Dermal
Stratum granulosum
Itch trig
Histamine-triggered neurons
Epidermis
T cell
Neutrophil
Eosinophil
Mast cell
Neurogenic inflammation
Neuropepti
Blood vessel
Derm


NEUROANATOMY OF ITCH
Cerebral cortex:
Anterior cingulate
Somatosensory I
Somatosensory II
Thalamus:
Medial dorsal
Ventral posterior
Cerebral aqueduct
Midbrain:
Periaquaductal gray matter
Descending inhibitory fibers
Ascending lamina I spinothalamic fibers
C fiber transmitting itch
Dorsal root ganglion
C fiber transmitting pain
Spinal cord:
Dorsal horn
Lateral spinothalamic tract

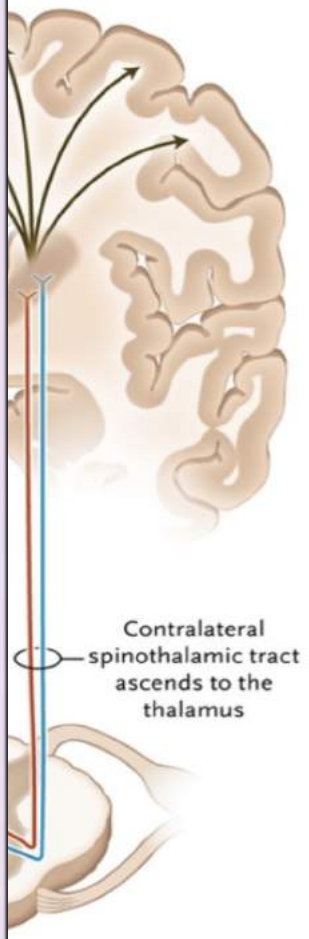

Contralateral spinothalamic tract ascends to the thalamus

Table 1 | **Clinical classification of itch**

Clinical classification	Mediators and mechanisms	Diagnosis	Therapy
Itch caused by skin disorders	Histamine, interleukins, prostaglandin and proteases	Inflammatory dermatoses (atopic dermatitis, psoriasis, drug reactions, mites and urticaria) and dry skin	Antihistamines, anti-inflammatory, immuno-modulatory topical and systemic therapy (cyclosporine A, pimecrolimus, tacrolimus and corticosteroids)
Itch caused by systemic disorders	Opiates, interleukins?	Chronic liver disease and chronic renal failure	Naltrexone, κ-opioid receptor agonists and gabapentin
Neuropathic itch	Damage to nerve fibres, neuropeptides (such as substance P) and proteases	Postherpetic pruritus, notalgia paresthetica and brachoradial pruritus, itch post-CVA	Gabapentin, pregabalin and capsaicin
Psychogenic itch	Serotonin, noradrenaline	Delusions of parasitosis, stress and depression	Olanzapine, pimozide and SSRI antidepressants
Overlapping and mixed			Central-acting itch inhibitors and topical anti-inflammatory drugs

CVA, cerebral vascular accident; SSRI, selective serotonin reuptake inhibitor.

Akihiko Ikoma et al. Neuroscience 2006

Chronic Itch

Pruritus lasting more than **6 weeks**

Is pruritus a problem?

Pruritus and QOL

- Most common skin disorder in the elderly
- Worldwide prevalence of **7.3 to 37.5%**
- **⅔ rd** of geriatric patients reported pruritus as their major skin complaint
- Patients with chronic pruritus are often **sleep deprived**
- **11.5%** of hospital admissions in elderly patients
- Effect on QOL comparable to that of **chronic pain or dialysis**
- Recent study: Pruritus ~ visual analogue pain scale **6** in geriatric participants

Kenneth R. Cohen et al. Pharmacy & Therapeutics 2012

Table 1 Decline of Skin Function in the Geriatric Population

- Cell replacement
- Barrier function
- Chemical clearance capacity
- Sensory perception
- Mechanical protection
- Wound healing
- Immune responsiveness
- Thermoregulation
- Sweat production
- Vitamin D production

Data from Tycross R, et al. *Q J Med* 2003;96:7–26;[2] and Fenske NA, Lober CW. *Geriatrics* 1990;45:27–35.[4]

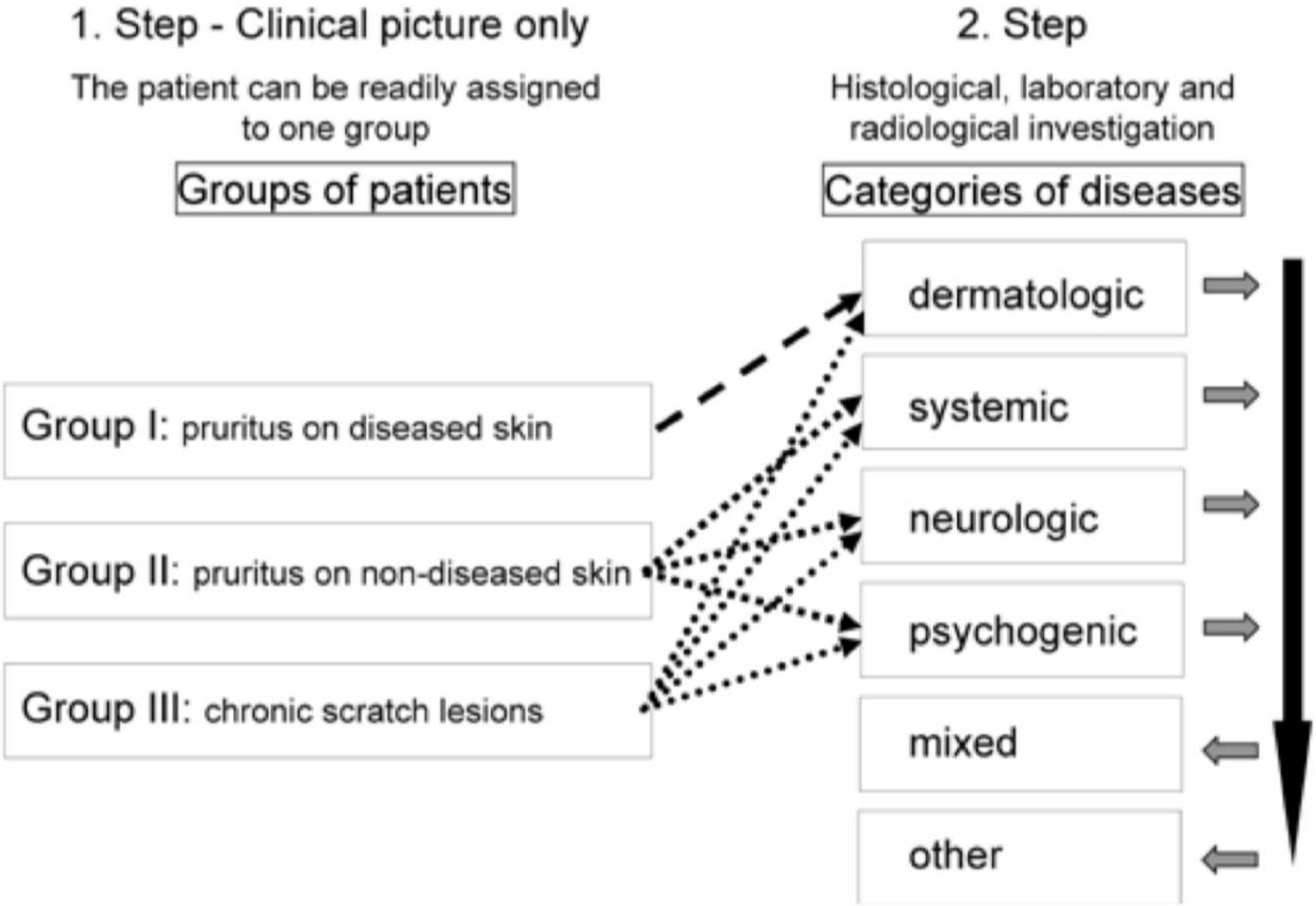
Pruritus Work Up

How should I approach the management of pruritus?

Classification of Pruritus

- **Type I** : Pruritus on diseased skin
- **Type II**: Pruritus on non-diseased skin
- **Type III**: Pruritus with chronic scratch lesions

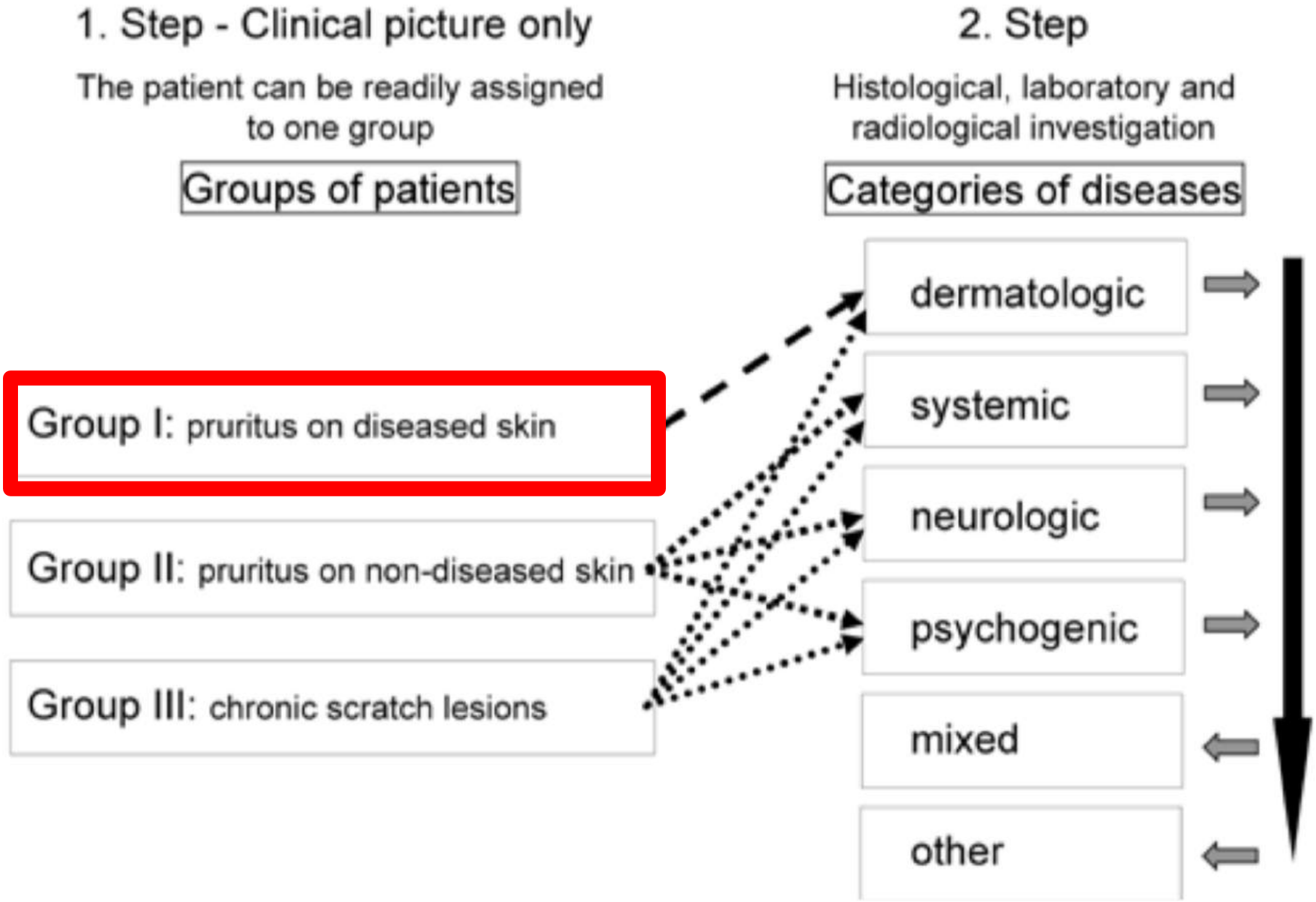
Sonja Stander et al. Acts Derm Venereol 2007.



Sonja Stander et al. Acts Derm Venereol 2007.

Important Questions

- Did the rash appear first or the pruritus?
- How is the pruritus affecting your life?



Sonja Stander et al. Acts Derm Venereol 2007.

Type I: Pruritus in primarily diseased, inflammed skin

Pruritus is due to cutaneous illness

Treating the cutaneous illness will result in diminishing or resolution of itch

Delay in treating cutaneous illness can result in sensitization, making it more difficult to treat the pruritus

Differential Diagnoses

Inflammatory dermatoses
Atopic dermatitis, psoriasis, contact dermatitis, dry skin, drug reactions, scars

Infectious dermatoses
Mycotic, bacterial, viral, folliculitis, scabies, pediculosis, arthropod reactions, insect bites

Autoimmune dermatoses
Bullous dermatoses, dermatitis herpetiformis Duhring, bullous pemphigoid, dermatomyositis, chronic urticaria

Genodermatoses/Inherited skin diseases
Darier's disease, hailey-hailey disease, ichthyoses, Sjögren-larsson syndrome, EB pruriginosa,Grover disease (transient acantholytic dermatitis)

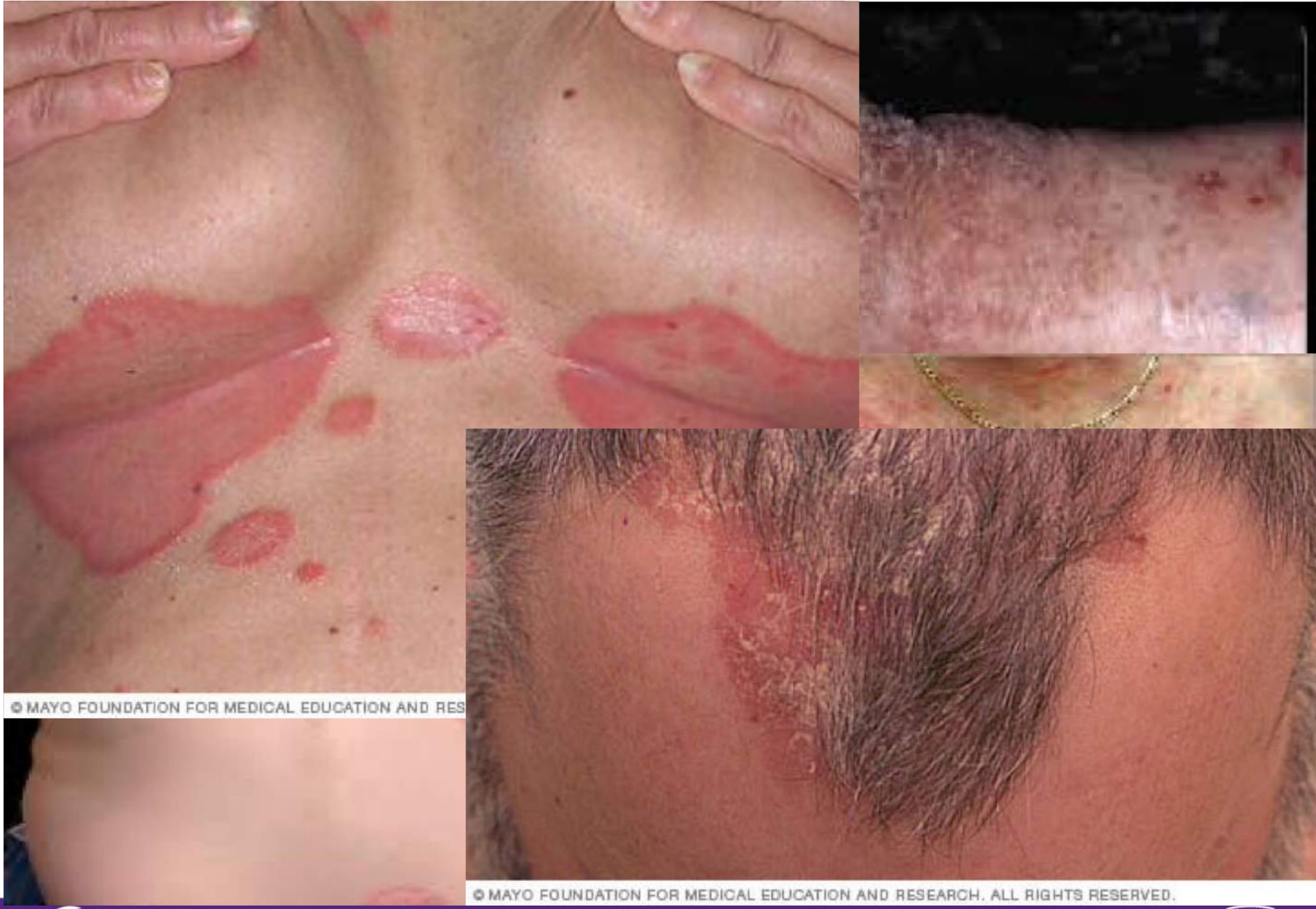
Neoplasms
Examples of diagnoses Cutaneous T-cell-lymphoma (especially erythrodermic variants), cutaneous B-cell-lymphoma, leukaemic infiltrates of the skin

Inflammatory dermatoses

- Atopic Dermatitis [AD]
- Psoriasis
- Seborrheic dermatitis, etc.

- Immunologically mediated superficial skin disease characterized by Hyperplasia, Hyperkeratosis, Spongiosis, Exocytosis etc. There are variable dermal changes.

- Usually scaly, crusty, erythematous and pruritis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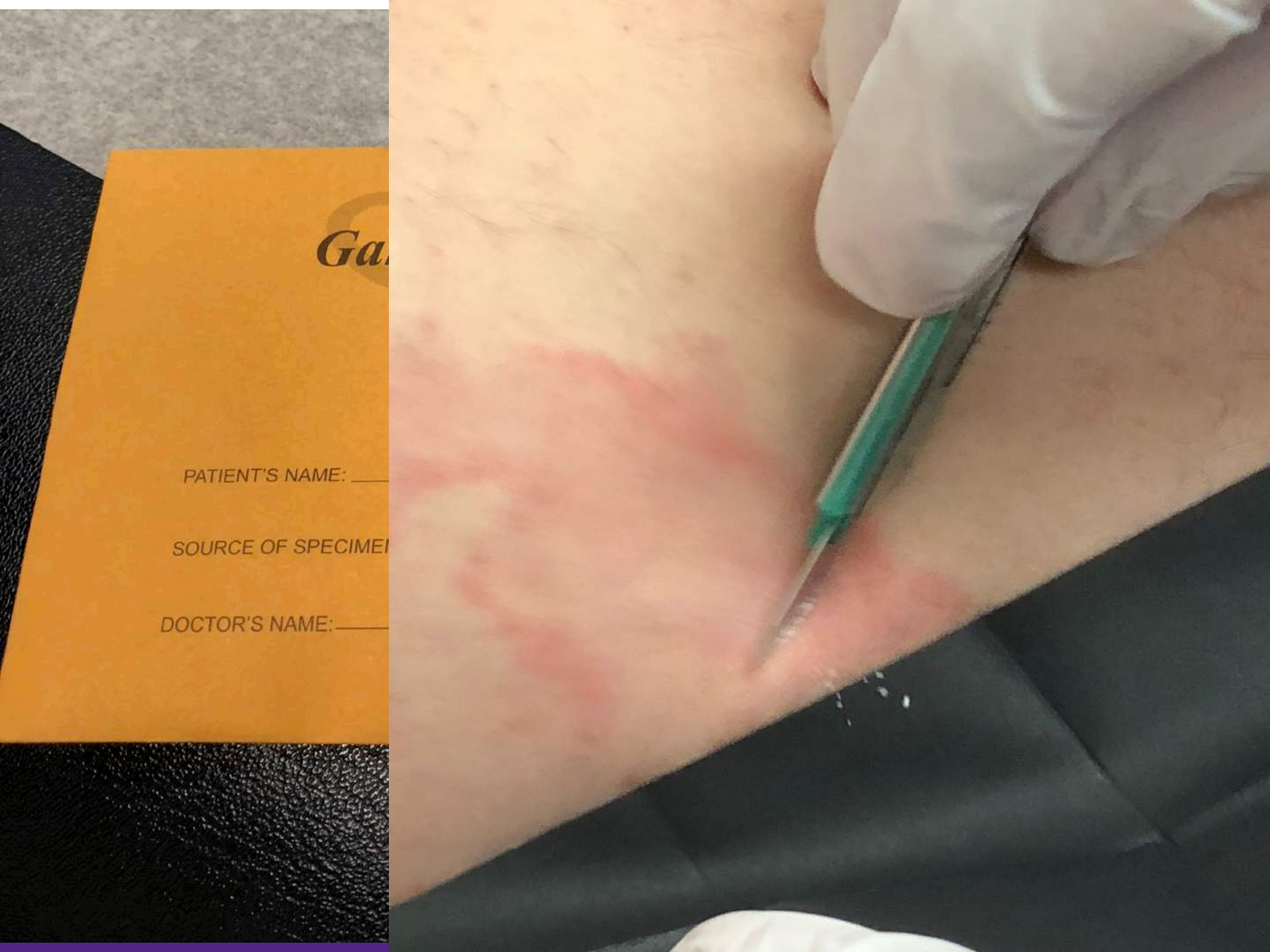
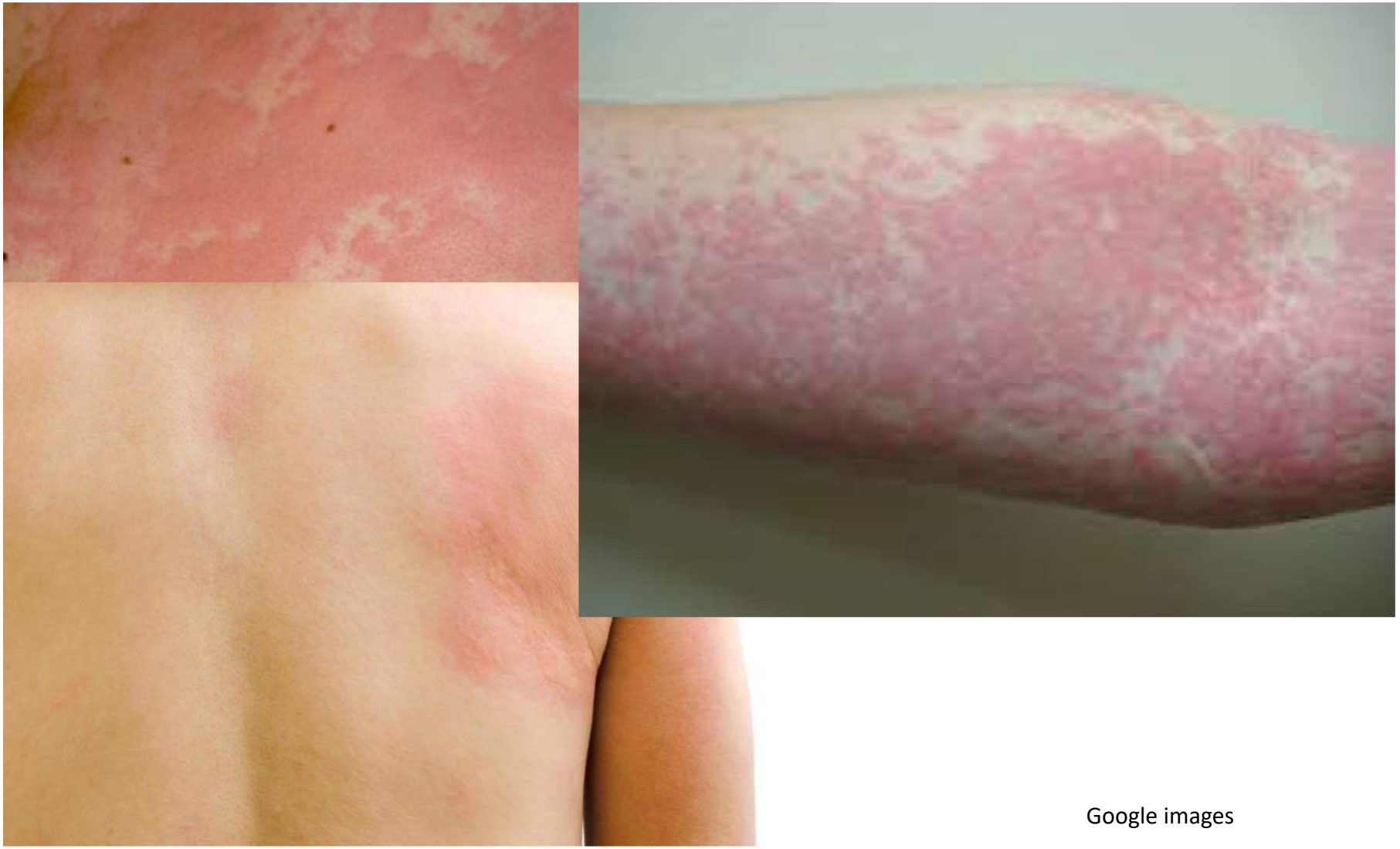

PATIENT'S NAME:
SOURCE OF SPECIMEI
DOCTOR'S NAME:

Urticaria

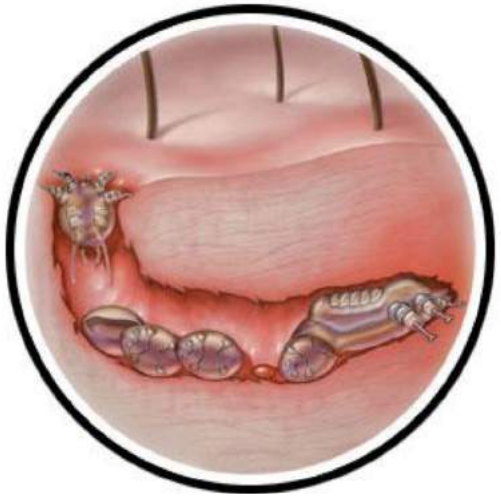
- Blanching, raised, erythematous patches
- Histamine mediated
- Lesions are transient ~ 24 hours
- Waxes and wanes
- Trigger [heat, alcohol, stress, hormones, spices etc]
- FHx of atopy, NSAID allergy and autoimmune diseases eg. DMII, Hypothyroidism etc

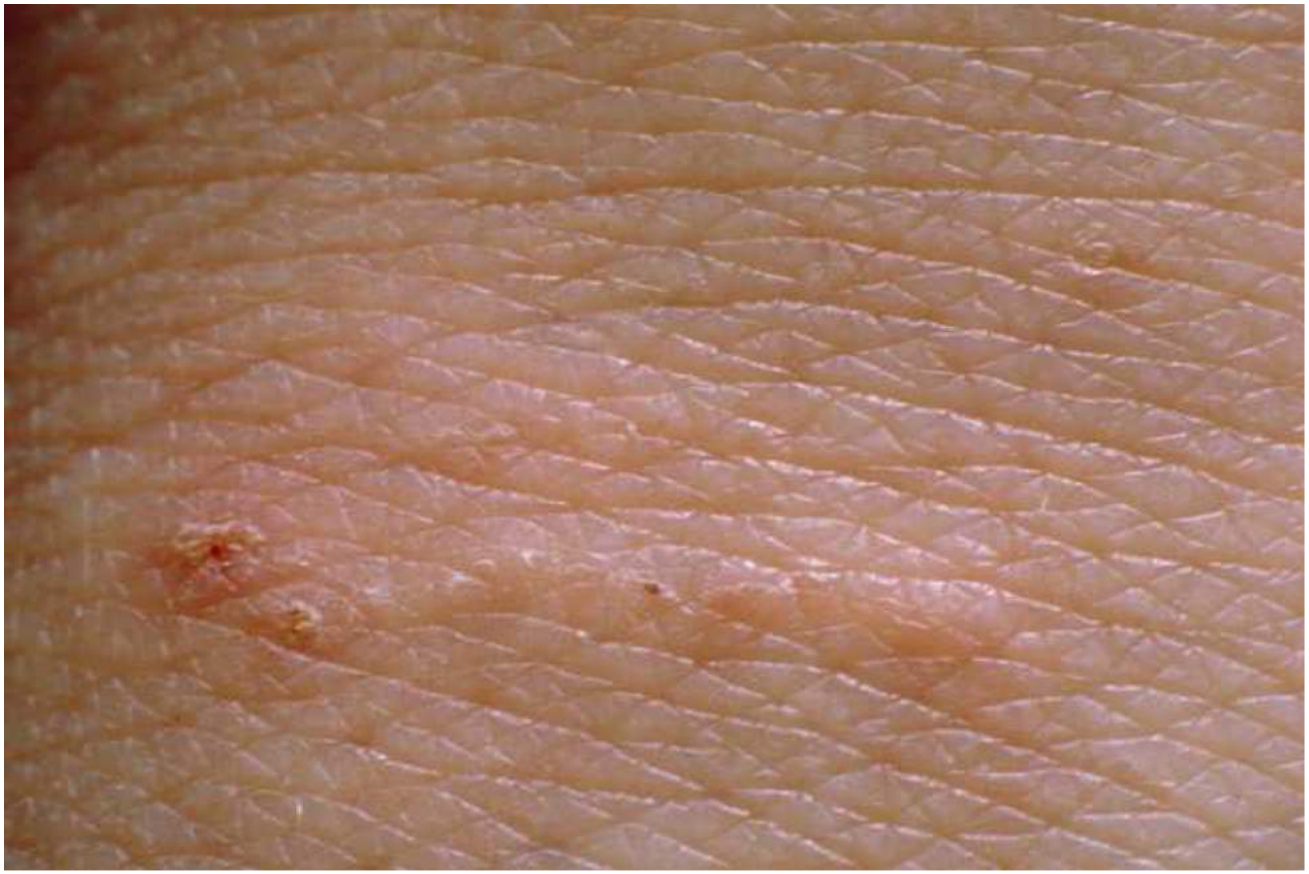


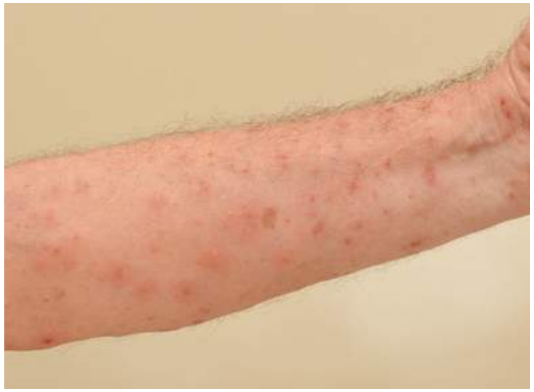
Google images

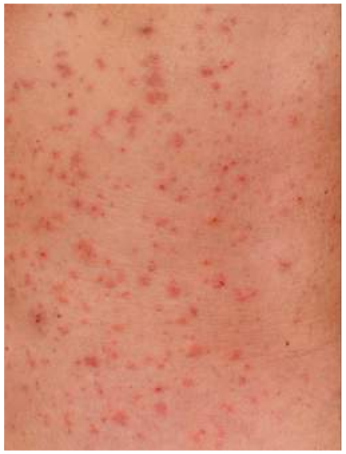
Scabies

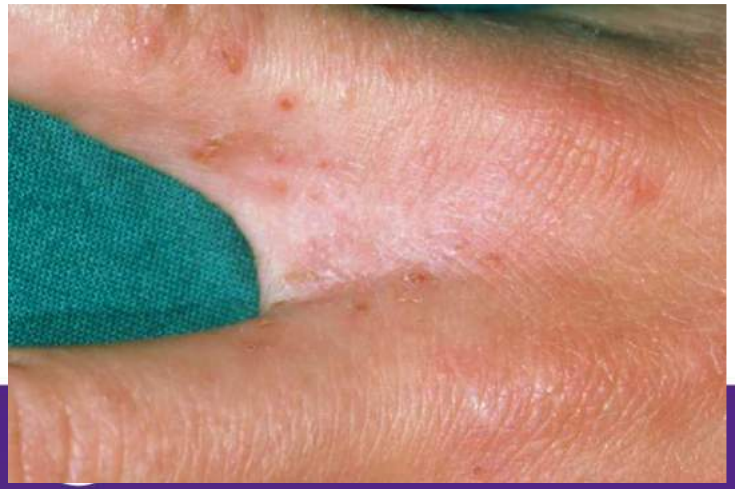
- *Sarcoptes scabiei* lays eggs in epidermis
- Intense sudden onset pruritus worse in evening/night (delayed hypersensitivity to mite proteins)
- Lesions: small erythematous papule with excoriations and crust; **burrow** (thin grey/red/brown line)
- Neck, axilla, genitals, finger webs

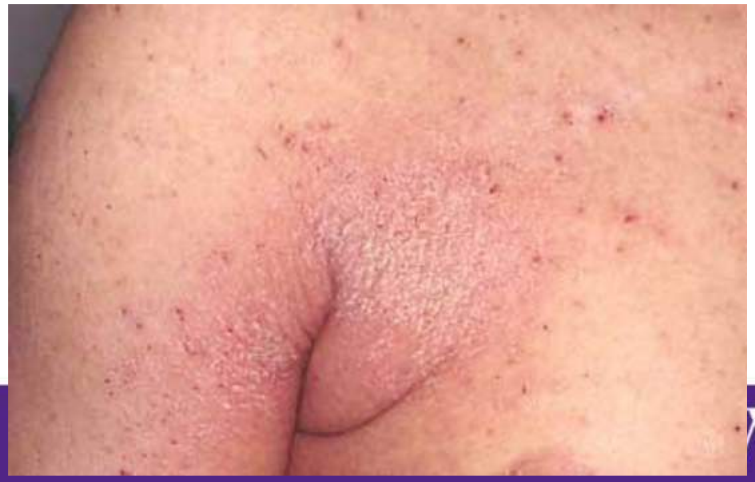






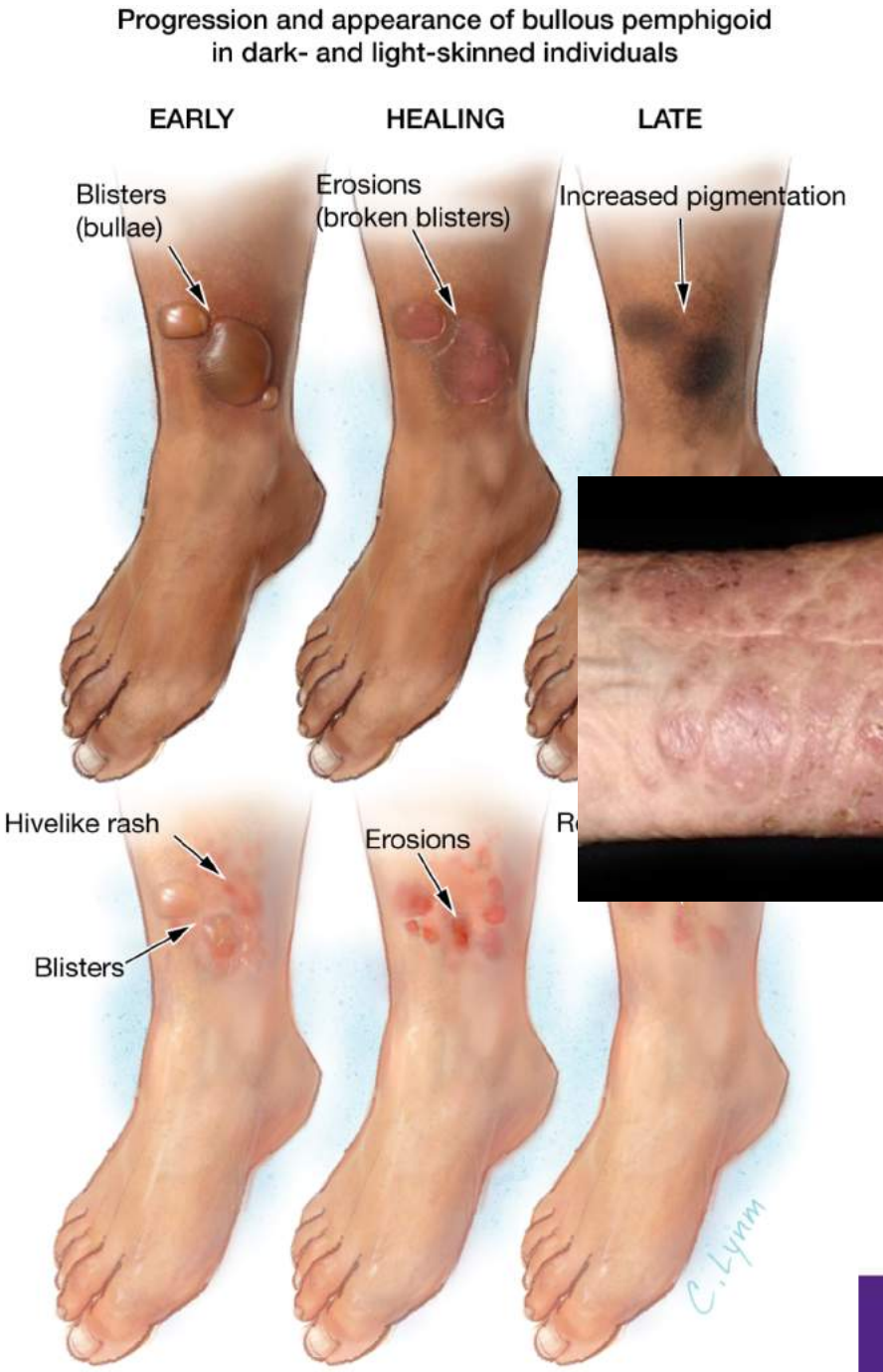


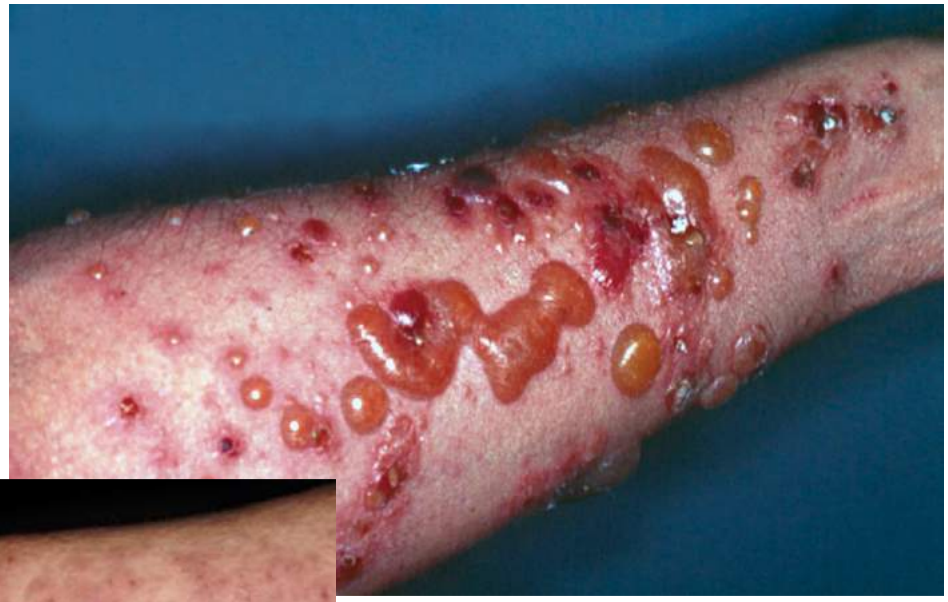


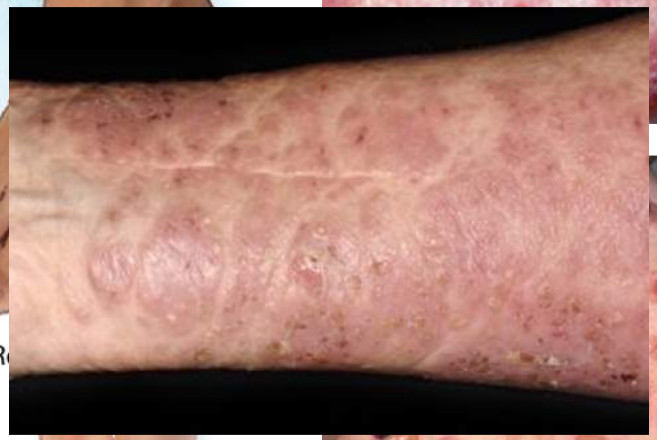


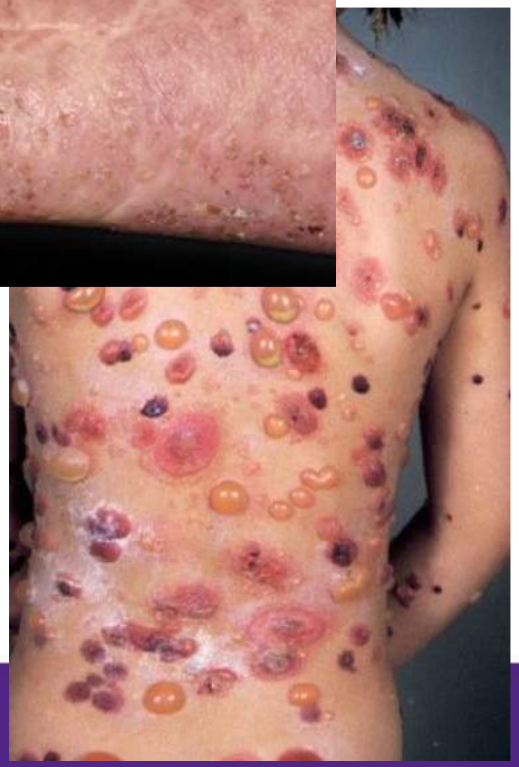
Bullous Pemphigoid

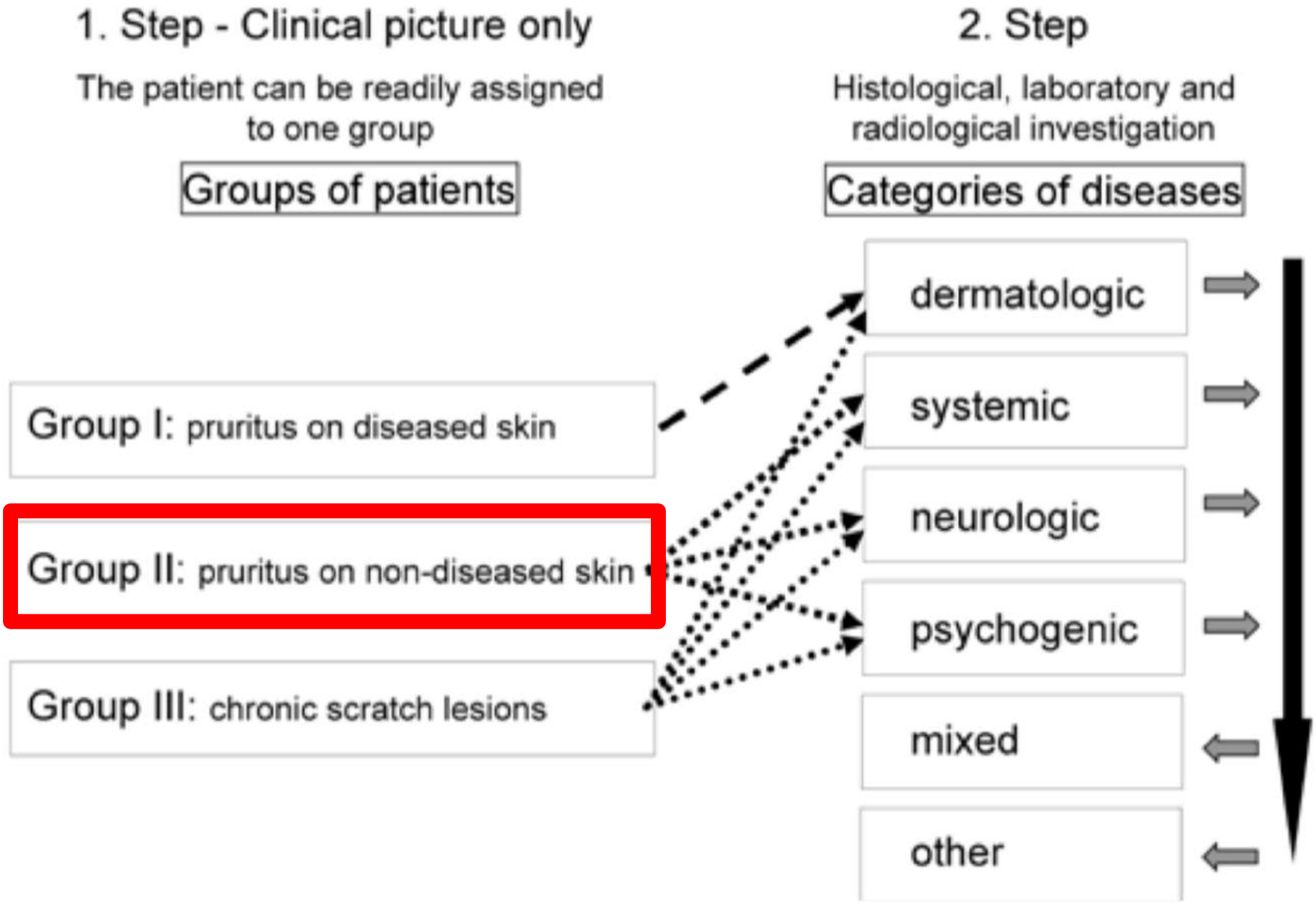
- Autoimmune blistering disorder
- Prodromal phase: pruritic eczematous, papular or urticaria-like lesions
- Tense bulla on erythematous, urticarial or non inflammatory base + pruritus
- Trunk, extremity, flexures, axilla, inguinal folds, mucosa
- Pruritic non-bullous pemphigoid


Progression and appearance of bullous pemphigoid
in dark- and light-skinned individuals
EARLY
HEALING
LATE
Blisters
(bullae)
Erosions
(broken blisters)
Increased pigmentation
Hivelike rash
Erosions
Blisters
C. Lynn









Sonja Stander et al. Acts Derm Venereol 2007.

Type II: Pruritus of primarily normal, uninflammed skin

Only secondary lesions

Small excoriations or warty lesions

Spares the back where patients cannot reach

The challenge?

Table 2 Systemic diseases accompanied by generalized pruritus

Liver diseases
Primary biliary cirrhosis
Primary sclerosing cholangitis
Extrahepatic cholestasis
Hepatitis B and C
Kidney diseases
Chronic kidney insufficiency
Hematologic diseases
Polycythemia vera
Hodgkin disease
Non-Hodgkin lymphomas
Leukemias
Myeloma multiplex
Iron deficiency
Systemic mastocytosis
Hypereosinophilic syndrome
Myelodysplastic syndromes
Endocrine disorders
Hyperthyroidism
Hypothyroidism
Hyperparathyroidism
Diabetes
Neurologic diseases (neuropathic pruritus)
Brain injury/tumor (frequently unilateral pruritus)
Sclerosis multiplex
Small fiber neuropathy
Solid tumors (paraneoplastic pruritus)
Carcinoid syndrome
Infectious diseases
HIV infection/AIDS
Infestations

Table 1 Pruritic skin diseases occurring in the elderly

1. Xerosis (skin dryness)
2. Inflammatory diseases
   - Dermatitis (all forms)
   - Dyshydrotic dermatitis
   - Drug reactions
   - Urticaria
   - Atopic dermatitis/neurodermatitis (rare)
3. Erythematous papulosquamous diseases
   - Seborrheic dermatitis
   - Psoriasis
   - Palmoplantar pustulosis
   - Lichen planus
   - Pityriasis rubra pilaris
   - Darier disease
   - Hailey-Hailey disease
   - Grover's disease
   - Polymorphic light eruptions
4. Autoimmune blistering diseases
   - Bullous pemphigoid
   - Acquired epidermolysis bullosa
   - Dermatitis herpetiformis
   - Pemphigus vulgaris (rarely)
5. Autoimmune connective tissue diseases
   - Dermatomyositis
   - Systemic sclerosis
   - Sjögren syndrome
6. Skin infections and infestations
   - Herpes simplex
   - Herpes zoster
   - Tineas
   - Candidal intertrigo
   - *Malassezia* folliculitis
   - Ofuji's disease
   - Scabies
   - Lice (pediculosis)
   - Cutaneous larva migrans
   - Insect bites and arthropod reactions
7. Rosacea
8. Mastocytosis
9. Cutaneous lymphomas
   - Mycosis fungoides and its variants
   - Sézary syndrome

Table 4 List of drugs that could induce pruritus [a]

Drug group	Examples
Antihypertensive drugs	Angiotensin-converting enzyme inhibitors
	Angiotensin II antagonists (sartans)
	β-Adrenergic blockers
	Calcium channel blockers
	Methyldopa
	Sildenafil
Antiarrhythmic drugs	Amiodarone
Anticoagulants	Ticlopidine
	Fractionated heparins
Antidiabetic drugs	Biguanides
	Sulfonylurea derivants
Hypolipemic drugs	Statins
Antibiotics and chemotherapeutics	Penicillins
	Cephalosporins
	Macrolides
	Carbapenems
	Monobactams
	Quinolones
	Tetracyclines
	Lincosamides
	Streptogramin
	Metronidazole
	Rifampin
	Thiamphenicol
	Trimethoprim/ sulfamethoxazole
	Antimalarials
Psychotropic drugs	Tricyclic antidepressants
	Selective serotonin reuptake inhibitors
	Neuroleptics
Antiepileptics	Carbamazepine, fosphenytoin, oxcarbazepine, phenytoin, topiramate
Cytostatics	Chlorambucil
	Paclitaxel
	Tamoxifen
Cytokines, growth factors, and monoclonal antibodies	Granulocyte-macrophage colony-stimulating factor
	Interleukin 2
	Matuzumab
	Lapatinib
Plasma volume expanders	Hydroxyethyl starch
Others	Antithyroid agents
	Nonsteroidal antiinflammatory drugs
	Corticosteroids
	Sex hormones
	Opioids
	Xanthine oxidase inhibitors

[a] Table based on ref [6].

Adam Reich et al. Clinics in Dermatology 2011.

Differential Diagnoses

Endocrine and metabolic diseases
Chronic renal failure, liver diseases with or without cholestasis, hyperthyroidism, malabsorption, perimenopausal pruritus

Infectious diseases
Helminthosis, parasitosis

Haematological and lymphoproliferative diseases
Iron deficiency, polycythaemia vera,hodgkin's disease, Non-hodgkin's lymphoma, plasmocytoma

Visceral neoplasms
Solid tumours of the cervix,prostate, or colon, carcinoid syndrome

Drug-induced pruritus (selection)
opioids, ACE-inhibitors, amiodarone, hydrochlorothiazid,estrogens, simvastatin, hydroxyethylstarch, allopurinol

Initial visit

History

- HPI (onset, severity, aggravating/alleviating factors, timing, location)/ROS
- PMHx/Meds/Allergies
- FMHx
- SHx (EtOH/drugs, living arrangement, pets)

Physical Examination

- Vitals
- Full-body skin exam (including hair/nails)
- *Lymph nodes*
- *Thyroid*
- *Abdomen*

Table 2. Key History and Physical Examination Elements in the Diagnosis of Pruritic Skin Conditions Common in Elderly Persons

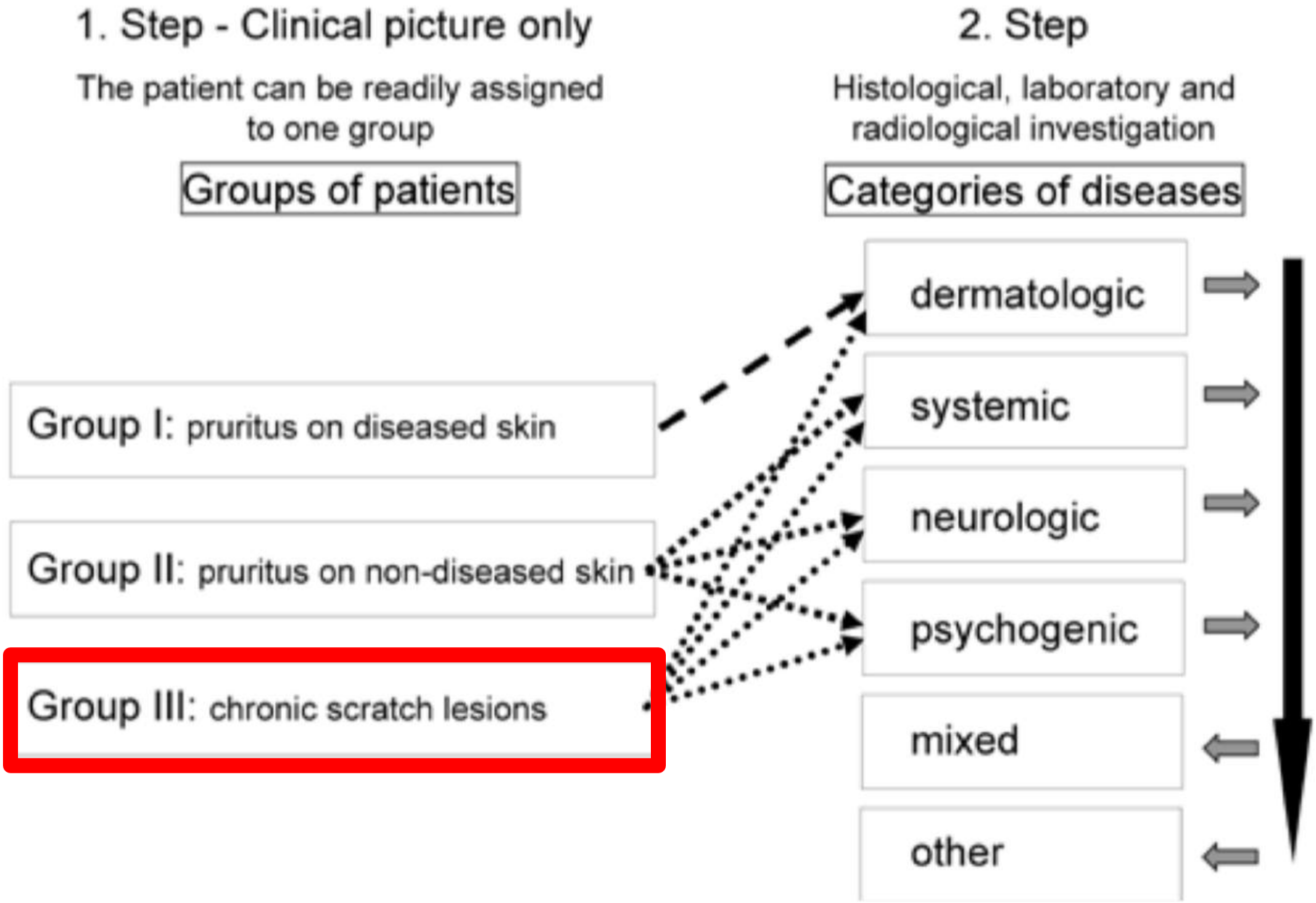
Condition	History	Physical Examination
Xerotic eczema	Improves with bathing, worse when dry; primarily affects lower legs and arms; spares the armpits, groin, face, and scalp	Can have minimal changes; fissured, slightly scaly, poorly defined patches
Scabies	Severe pruritus; recent stay in long-term care facility	Small papules and linear lesions of the axillae, groin (vulva and scrotum), navel, finger-webs
Photodermatitis	Photosensitizing medication; worse after sun exposure (eg, long car trip)	Confluent patches favoring dorsal hands, brachioradial arms, "V" upper chest area, posterior neck, and face
Grover disease	Worse after sweating (even in winter)	2- to 4-mm slightly scaly red papules of the inframammary chest/upper abdomen and central back
Bullous pemphigoid	Severe pruritus	Urticarial plaques or bullae favoring the inner aspects of proximal arms and thighs and flanks; surrounding erythema may or may not be present
Drug-induced skin eruption	New medication (eg, calcium channel blocker or hydrochlorothiazide)	Many morphologies; widespread symmetrical erythema
Cutaneous T-cell lymphoma (mycosis fungoides type)	Long duration; pruritus minimal to severe	Slightly scaly large patches with atrophy at times with pigment change; loss of hair in lesions; often begins on lower back, buttocks, upper thighs (bathing trunk distribution)

Timothy G. Berger et al.JAMA 2013.

What investigations can be ordered?

Laboratory and radiological investigations need to be adapted to the patient's' history and pre-existing diseases

CBC, Electrlytes, Liver Enzymes, Renal function, sTSH, HbA1C, Urinalysis, Urine R and M, Inflammatory markers, Skin biopsies (for H&E but also for DIF), skin scraping, Spine imaging to rule out radiculopathy etc.



Sonja Stander et al. Acts Derm Venereol 2007.

Type III: Pruritus with chronic secondary scratch lesions

Only secondary lesions

Patients usually have a back injury/neuronal injury

Most vulvar itch is due to Type III

Severe itch-scratch cycle

Complications: “sensitization” of the itch

Differential Diagnoses

Neurogenic origin (without neuronal damage)
Few clinical examples yet, potentially hepatic itch with increased endogenous-opioids (dis-inhibition of itch)

Neuropathic diseases (neuronal damage causes itch)
Lichen Simplex Chronicus, Multiple Sclerosis, neoplasms, abscesses, cerebral or spinal infarcts, brachioradial pruritus, notalgia paresthetica, post-herpetic neuralgia, vulvodynia, small fiber neuropathy

Somatoform pruritus
Psychiatric/psychosomatic diseases, depression, anxiety disorders, obsessive-compulsive disorders, schizophrenia, tactile hallucinosis, fatigue

Peripheral and Central Sensitization

Peripheral cutaneous nerves become hypersensitive to stimuli and produce progressively worsening pruritus.

Ultimately the dorsal root ganglia are “hardwired” to continuously send abnormal signals causing pruritus. This is called central sensitization. When this occurs, stimuli from the skin and peripheral nerves are not needed to produce pruritus.

Chronic pruritus is learned and it is anatomically fixed in the CNS (dorsal root ganglion)

Lichen Simplex Chronicus

Neurodermatitis

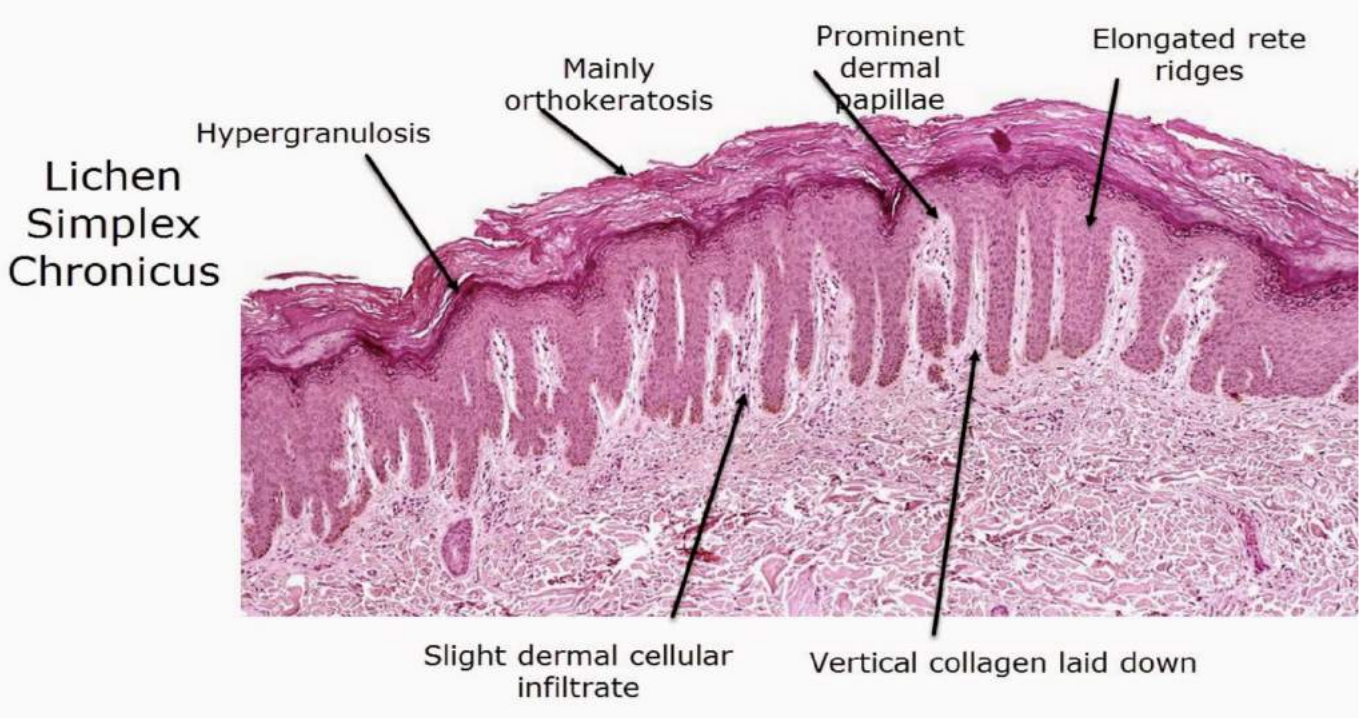
- Lichenified plaques and excoriations
- Due to excessive scratching secondary to intense pruritus

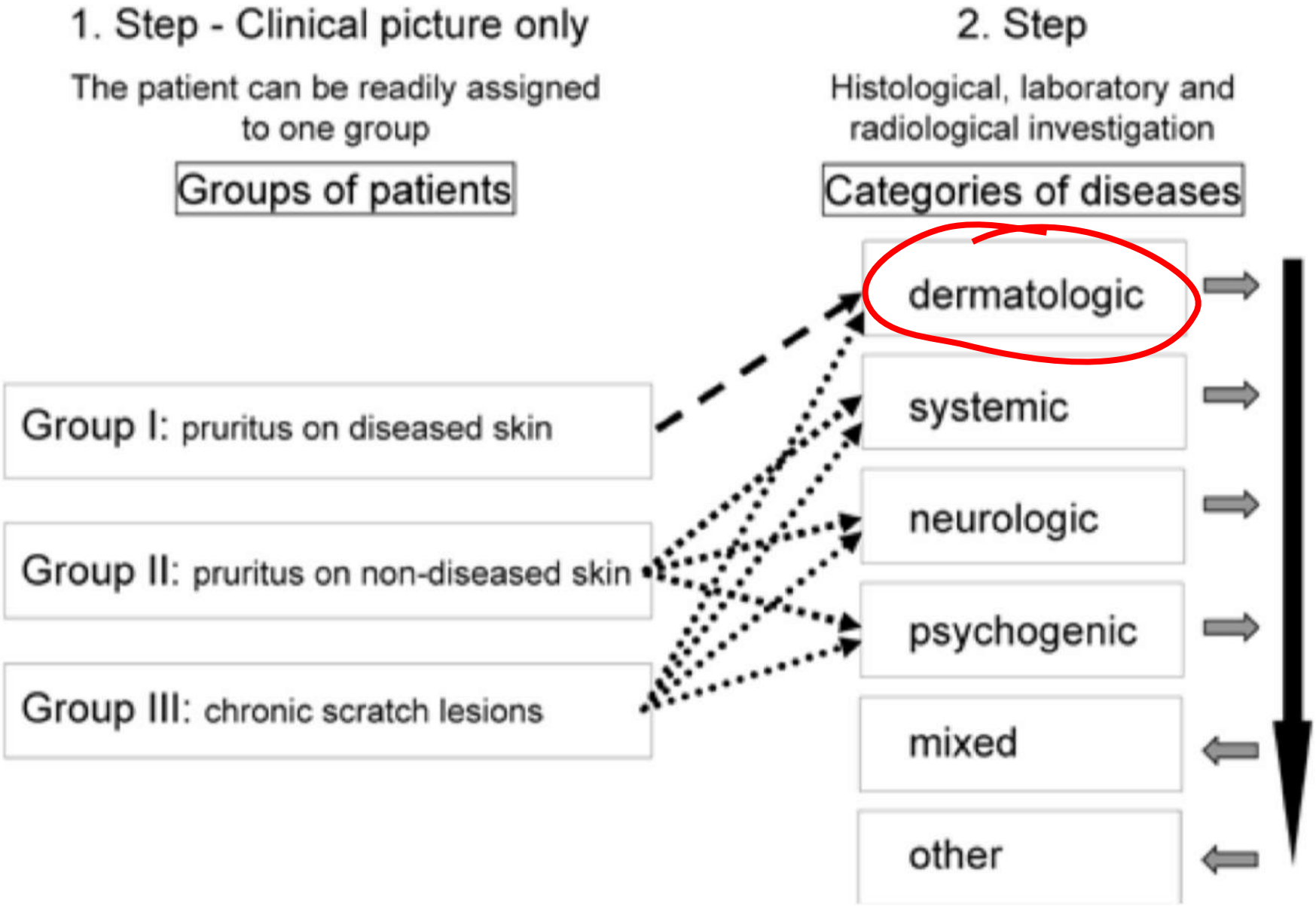
  NOT a primary skin disorder
- Scalp, neck, extensor forearms, scrotum, legs
- Associated with AD, neuropathic pruritus, psychological factors

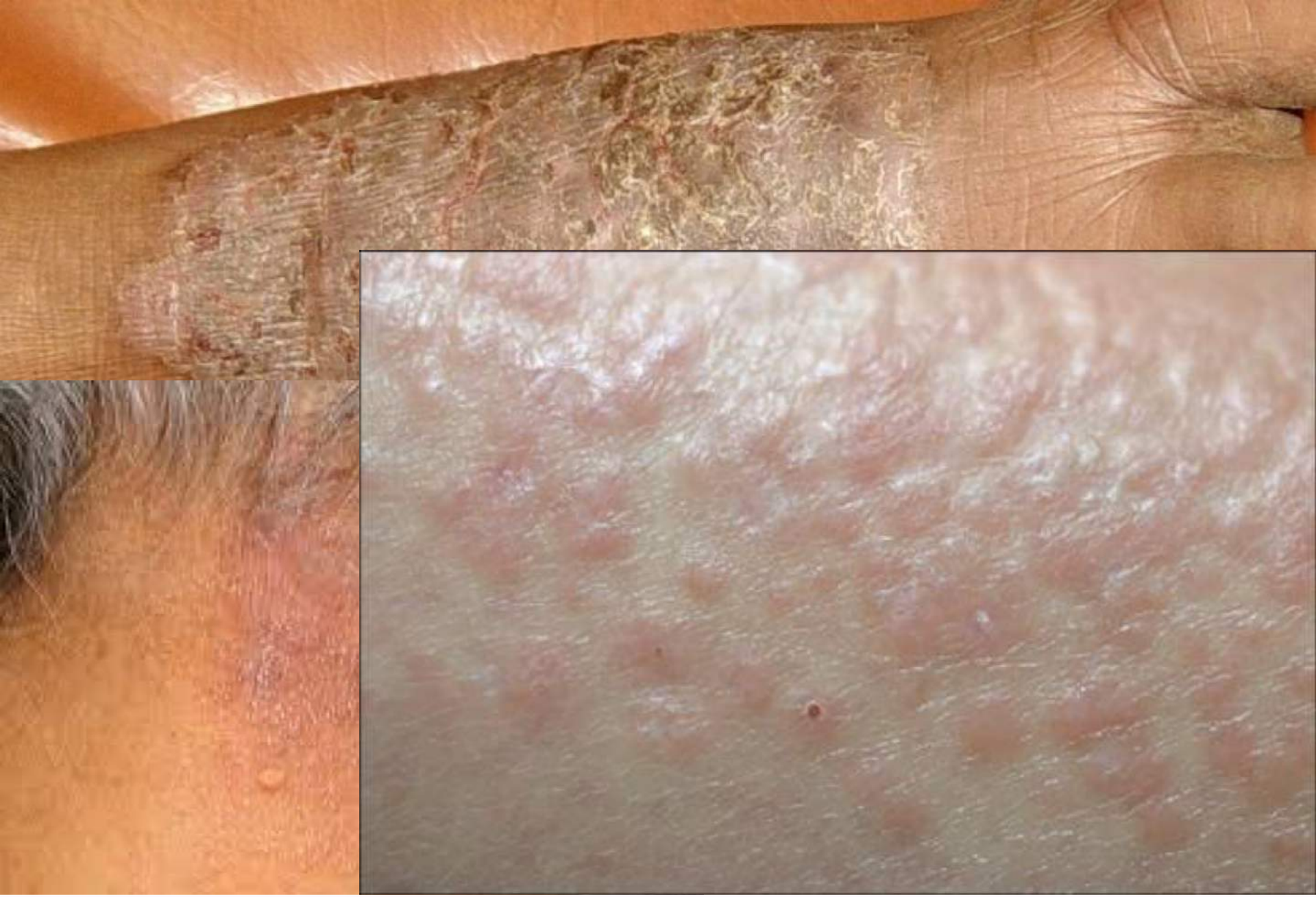
Histopathology

Microscopic (histologic) description

- Marked hyperkeratosis associated with foci of parakeratosis
- Prominent granular cell layer
- The epidermal rete are elongated and irregularly thickened
- Mild spongiosis
- Perivascular and interstitial inflammation with histiocytes, lymphocytes and occasional eosinophils in superficial dermis
- Occasionally enlarged elongated myofibroblasts, papillary dermal fibrosis, nerve hyperplasia

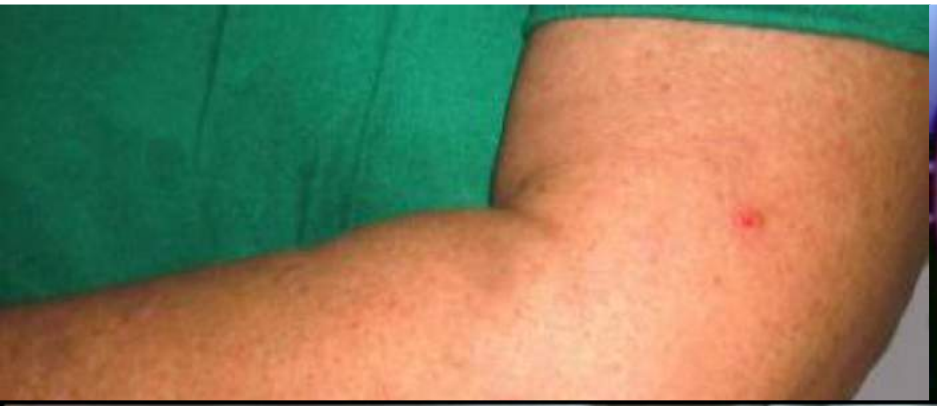


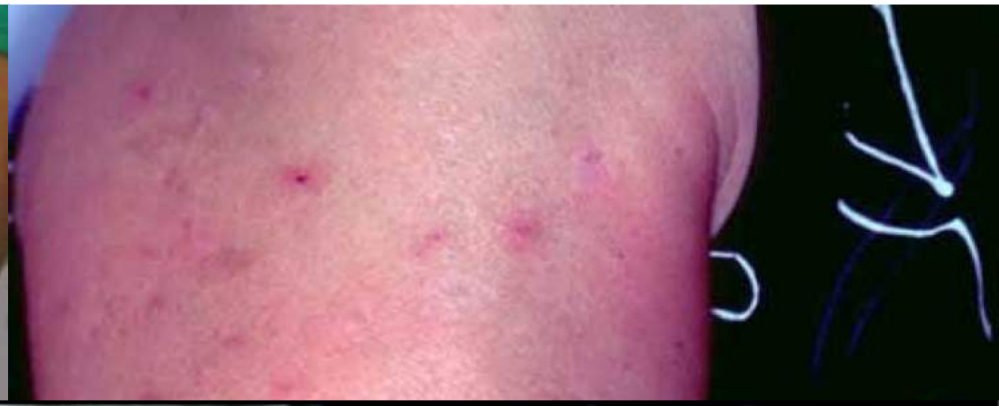

1. Step - Clinical picture only
The patient can be readily assigned to one group
Groups of patients
2. Step
Histological, laboratory and radiological investigation
Categories of diseases
Group I: pruritus on diseased skin
Group II: pruritus on non-diseased skin
Group III: chronic scratch lesions
dermatologic
systemic
neurologic
psychogenic
mixed
other

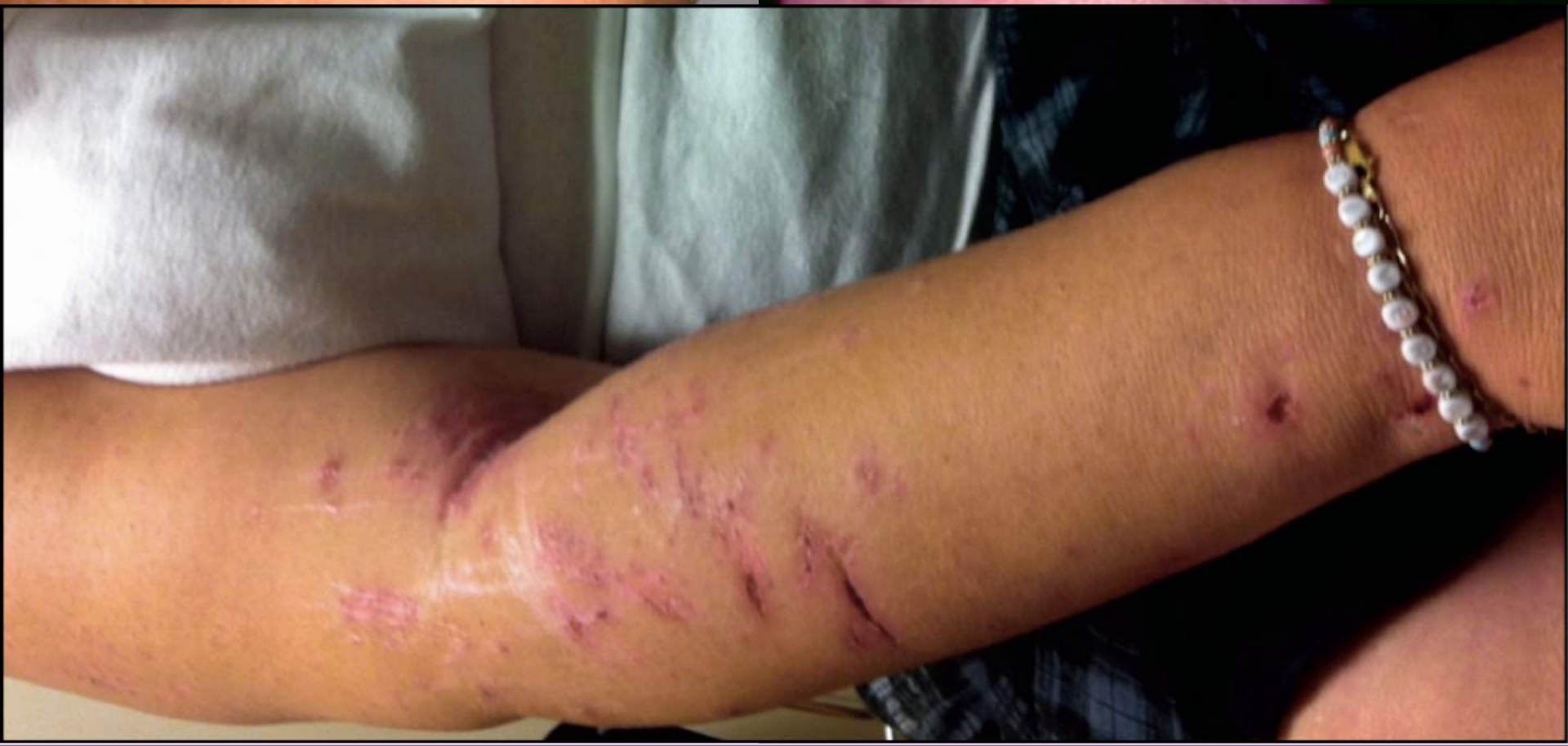


Brachioradial pruritus

- Localized, involves the proximal dorsolateral forearm
- “Ice-pack sign” - symptomatic relief with ice
- Etiology: cervical nerve root impingement, sun exposure (fair-skin, sunny climates, worse in summer), spinal tumours

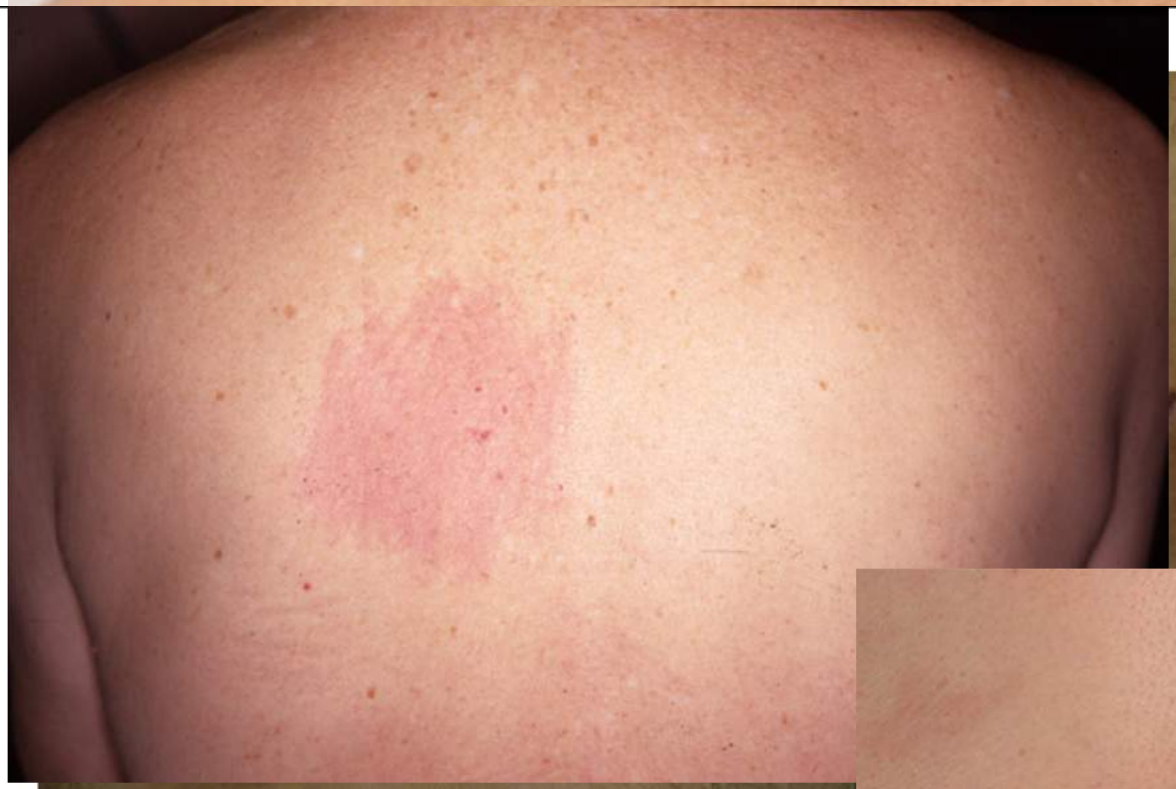


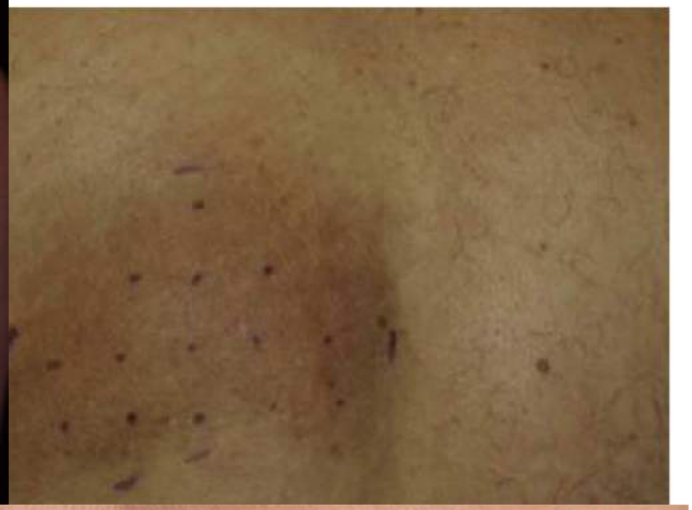


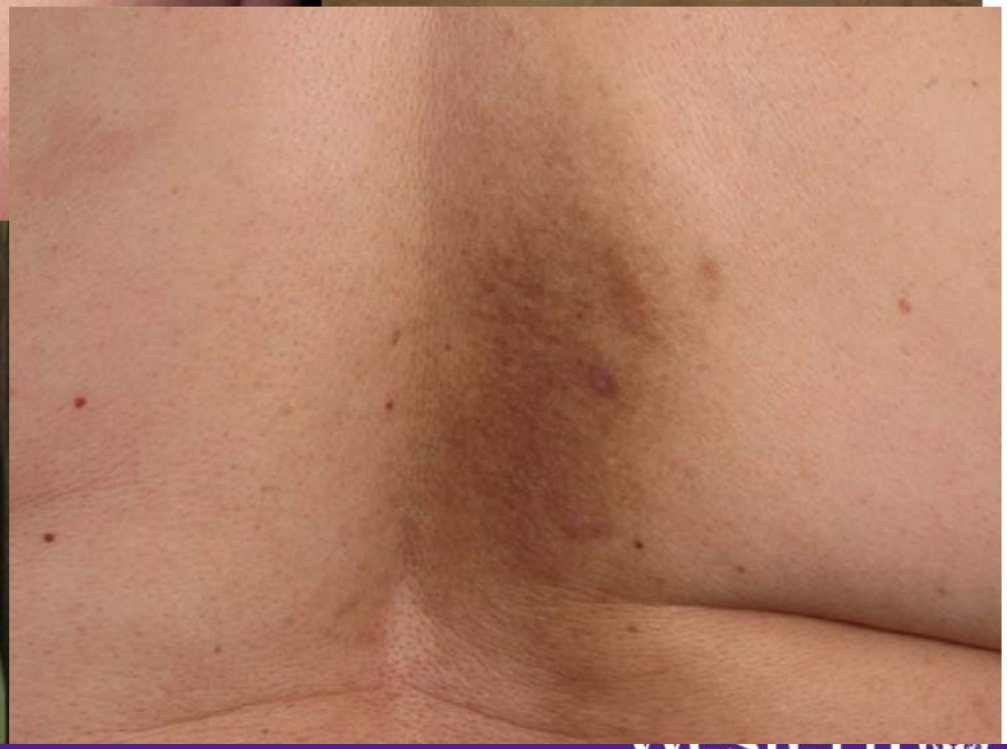


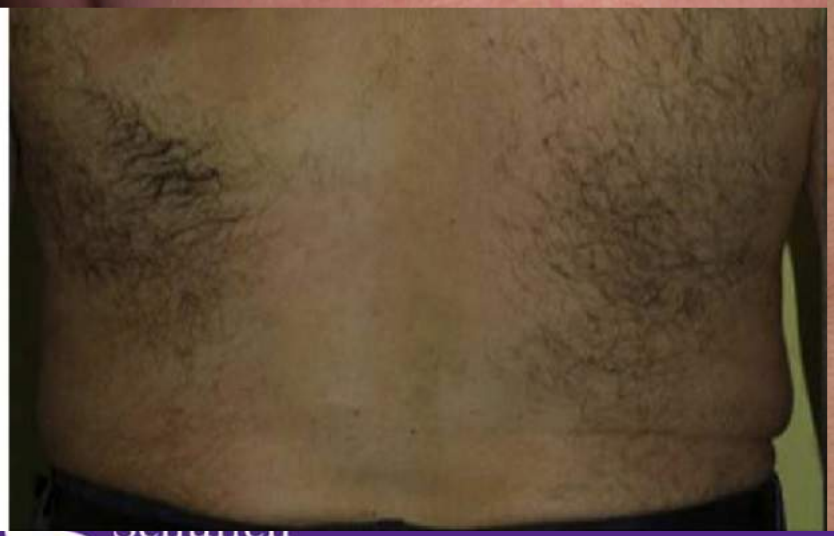
Notalgia paresthetica

- Unilateral, involves skin medial to the scapular border on the mid to upper back
- Nerve entrapment of the posterior rami of spinal nerves T2 to T6
- Findings: scratching, rubbing, hyperpigmentation of the skin









Treatment Options

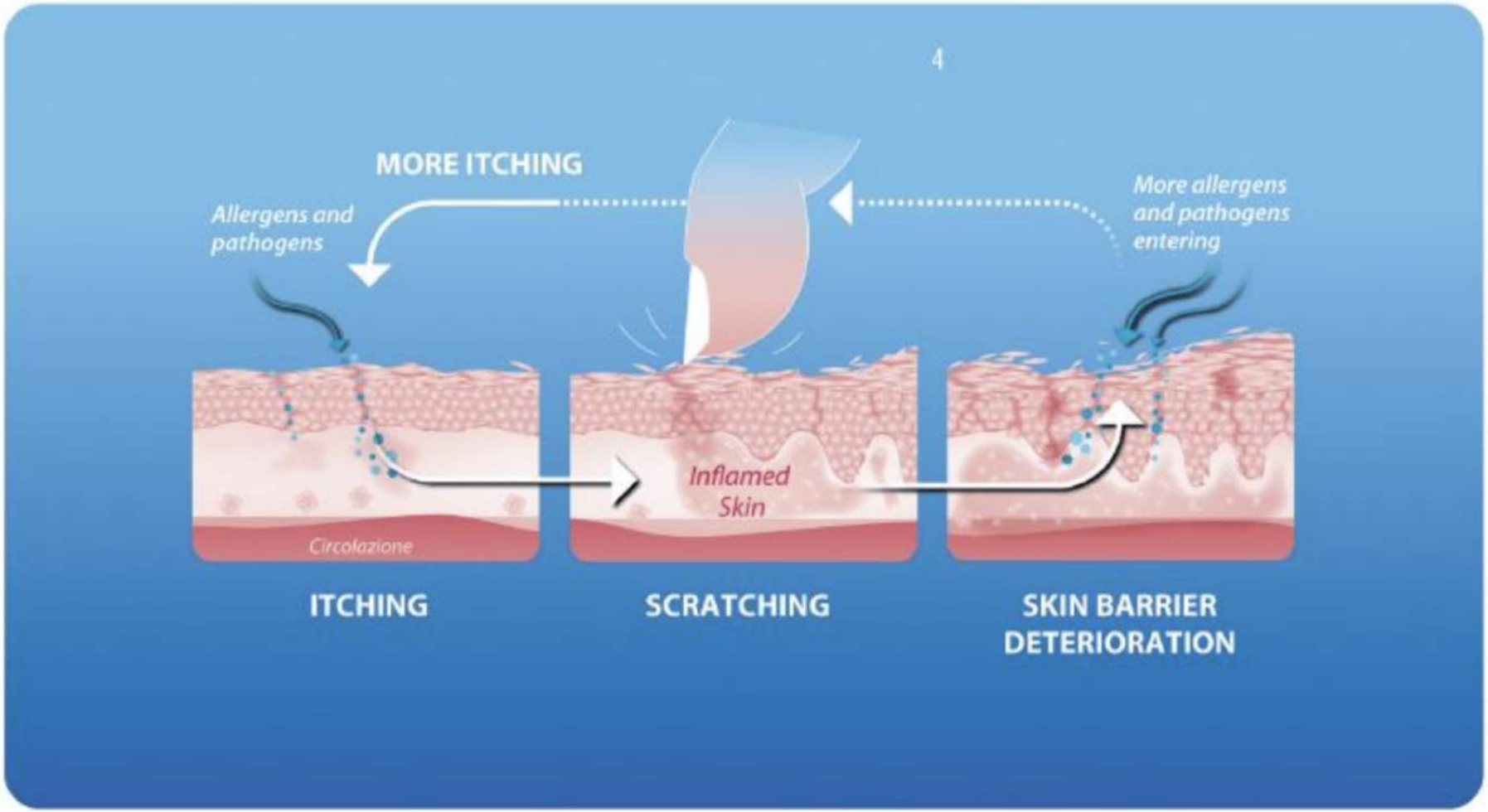
Repertoire of Treatments

- General Measures
- Topical Therapies
- Systemic Therapies
- Biologic
- Interventional

General Measures

- Counsel on the itch-scratch cycle
- Keep nails short
- Short baths, avoid hot water
- Avoid soaps (oil based cleansers)
- Apply moisturizers immediately after bathing (low pH recommended: Dove, Cetaphil)
- Wear light, loose clothing; avoid irritating fabrics
- Maintain a home humidity of 40% (humidifier in winter; AC in the summer)

The Itch/Scratch Cycle

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• Soothing
Hydratante • Anti-démangeaison
• Apaisante
400 mL

rapies

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for a few weeks then step

ice a week till resolved

Kenneth R. Cohen et al. Pharmacy & Therapeutics 2012

Topical Therapies

Calcineruin inhibitors (tacrolimus, pimecrolimus)

- Inhibit the production & release of inflammatory cytokines in T cells, mast cells; indicated in AD
- Steroid sparing; may be good alternative
- S/E: stinging & burning of skin, $$
- Tacrolimus 0.03% and 0.1% for facial or eyelid AD and or other inflammatory conditions

Kenneth R. Cohen et al. Pharmacy & Therapeutics 2012

Topical Therapies

Antihistamines

- Diphenhydramine cream: urticaria, insect bites
- Doxepin (Zonalon 5% cream): TCA that exhibits potent H1 and H2 antagonism
  - Double blind study showed pruritus relief in patients with contact dermatitis, nummular eczema and lichen simplex chronicus
- S/E: stinging, drowsiness

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Topical Therapies

Coolants (menthol)

- Activate the delta-A nerve fibres
- Create sensation of cold
- 1% Menthol in glaxal lotion to be used once or twice a day.
- Tip: can be refrigerated for further benefit

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Topical Therapies

Anesthetics

- Emla cream (lidocaine-prilocaine)
- Pramox HC (pramoxine HC)
- Hurricane spray (2% Benzocaine spray)

Temporary relief from unpleasant sensations

S/E: dose related CNS excitability

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Topical Therapies

Capsaicin

- Desensitizes C sensory nerve fibres and neurolysis at high doses
- Neuropathic, systemic & dermatological pruritus
- S/E: pain, burning & stinging. Caution on open wounds and in elderly
- Capsaicin 0.006%, in white soft parafin

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Topical Therapies

Combination Topicals for Neuropathic pain

(Ion Channel Blockers) “Triple Cream”

Ketamine 5-10%,
Amitriptyline 2-5%
Lidocaine 2.5-5%

Apply during pruritic episode

Systemic Therapies

Oral Steroids

-Used for specific cutaneous illness e.g., Bullous Pemphigoid and other autoimmune illnesses

-Dose ~1mg/kg daily [40 to 60mg daily]

-Monitor SE

Systemic Therapies

Antihistamines

- Diphenhydramine (Benadryl) most effective for treatment of pruritus that is mediated through H1 receptors (e.g., urticaria)
- S/E: Anticholinergic
- Non-sedating H2 receptor blockers e.g. loratadine, fexofenadine not as effect but better safety profile
- Everything else: Sedation is beneficial for QOL but needs to be watched in the elderly

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Tricyclic Antidepressants (TCAs)

Doxepin 3mg, 6mg to 10mg po hs

Both for pruritus and insomnia from pruritus

Anti depressant doses 75mg and up

S/E: (anticholinergic) glaucoma and urinary retention

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Systemic Therapies

Serotonin Receptor Antagonists

- Mirtazapine: indicated for pruritus associated with advanced cancer, cholestasis, hepatic or renal failure
- Paroxetine, fluvoxamine: antipruritic effect demonstrated for AD, lymphoma, solid carcinomas Even a low dose 5mg Paroxetine may be helpful
- Ondansetron: cholestatic pruritus
- S/E: CNS stimulation, sleep disturbances, agitation, serotonin syndrome

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Systemic Therapies

Opioid antagonists & agonists

- Mu receptor antagonists (naltrexone, naloxone): uremic & cholestatic pruritus, chronic urticaria, AD, opioid-induced pruritus
- Dose Naltrexone 25 to 50mg daily
- Kappa receptor agonists (butorphanol): intractable itching
- S/E: sedation, insomnia, respiratory depression, potential for abuse

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Systemic Therapies

Neuroleptic Agents (gabapentin, pregabalin)

- Decrease neuronal transmission; indicated for neurological & uremic pruritus
- Pregabalin 25 mg hs and titrate
- Excreted through the kidneys
- S/E: sedation, depression/suicidality

Bile-acid sequestrants (cholestyramine, colestipol)

- Accumulation of bile in nerve and skin cells causes itch
- S/E: bloating, diarrhea, abdominal discomfort

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Other Treatments

Phototherapy

- Narrow-band UBV therapy shown to be effective in uremic pruritus, psoriasis

Psychotherapy

- Study showed that psychological interventions reduced the intensity of itching & scratching in patients with AD

Acupuncture

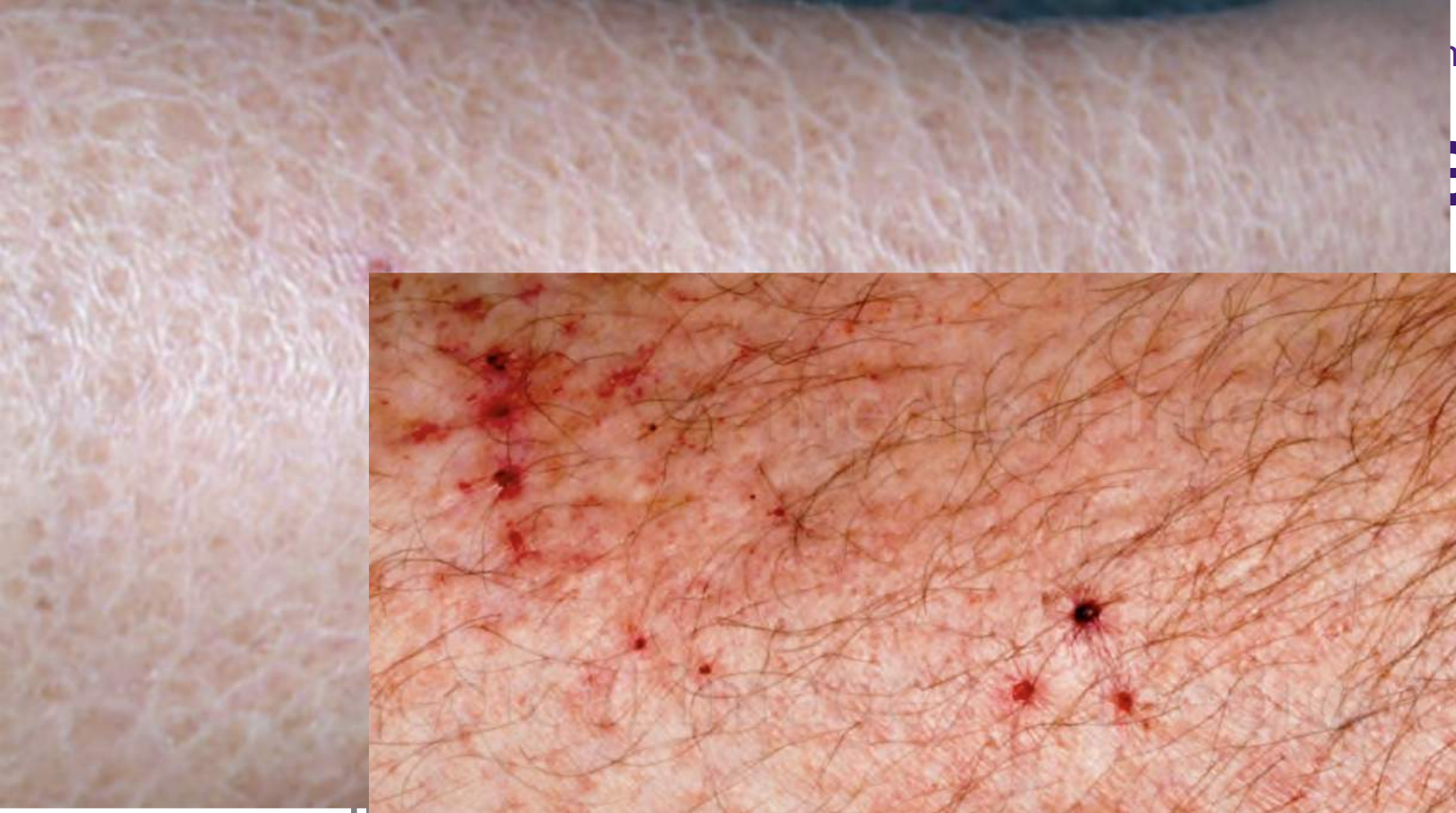
- Interferes with central and peripheral transmission of itch; limited data available

Kenneth R. Cohen et al. Pharmacy & Therapeutics 2012

Pruritus	Possible treatments
Type I: Pruritus on diseased skin	Topical and Systemic Steroids Topical and Systemic Anti-Histamines Topical and Systemic TCAs Antibiotics Phototherapy
Type II: Pruritus on non-diseased skin	SSRIs Systemic TCAs Opioid antagonist [Naltrexone] Bile Acid Sequestrants Neurolepts [Pregabalin, Gabapentin] Psychotherapy
Type III: Pruritus with chronic scratch lesions	Topical Anaesthetics Topical Capsaicin crm Triple Cream Topical and Systemic TCAs Neurolepts [Pregabalin, Gabapentin] SSRIs Acupuncture Psychotherapy

Cases

e



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TYPE I Pruritus

DDx: Xerosis Cutis (nephrophathy), Icthyosis Vulgaris, Xerosis of aging skin

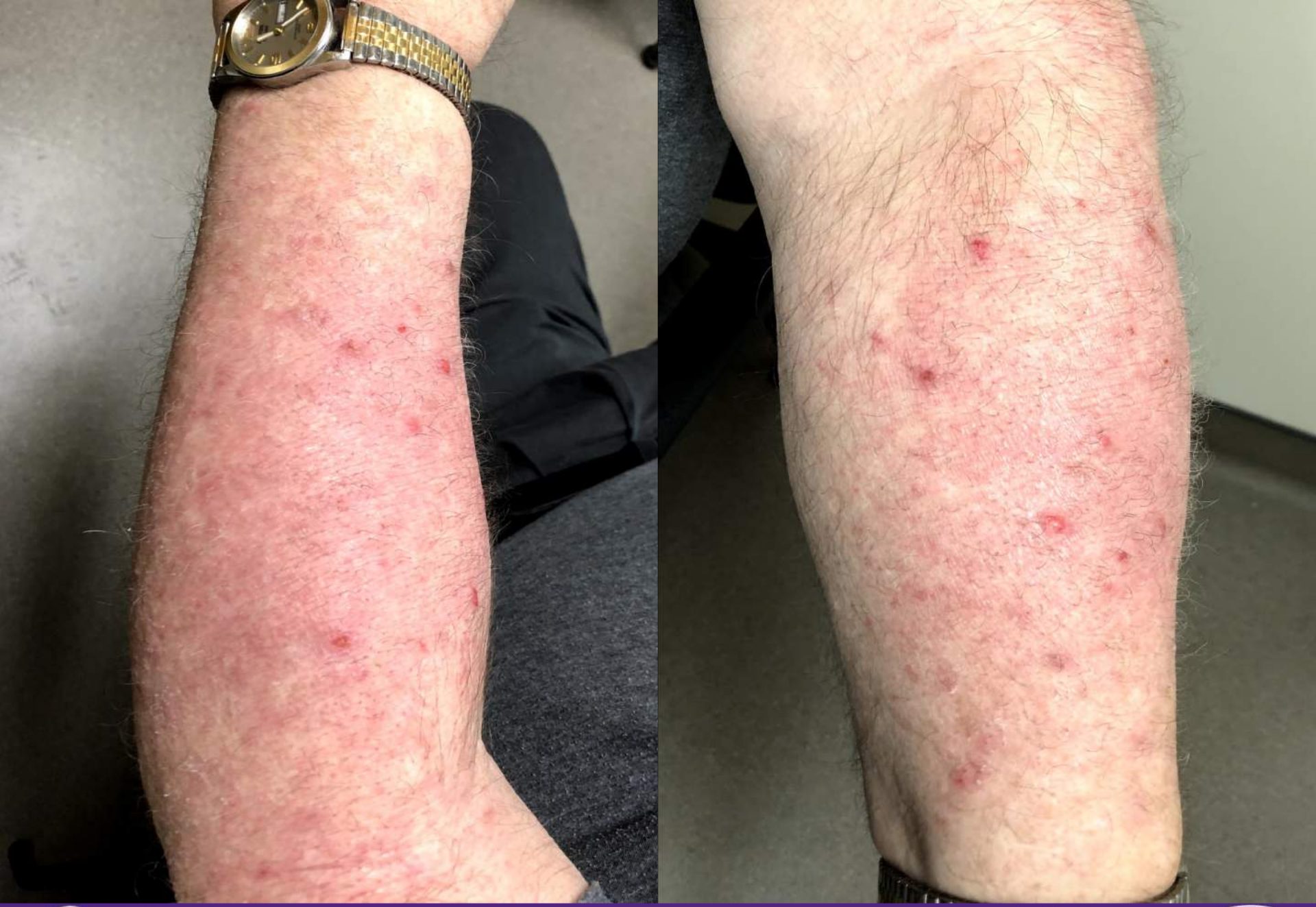
Mx: [STOP from drying and ADD Moisture]

Cut nails very short,

Shower with lukewarm water and non soap based cleanser

Liberal emollient use twice a day daily, Glycerine in Glaxal base

Keratolytic: Urea cream is very scaly



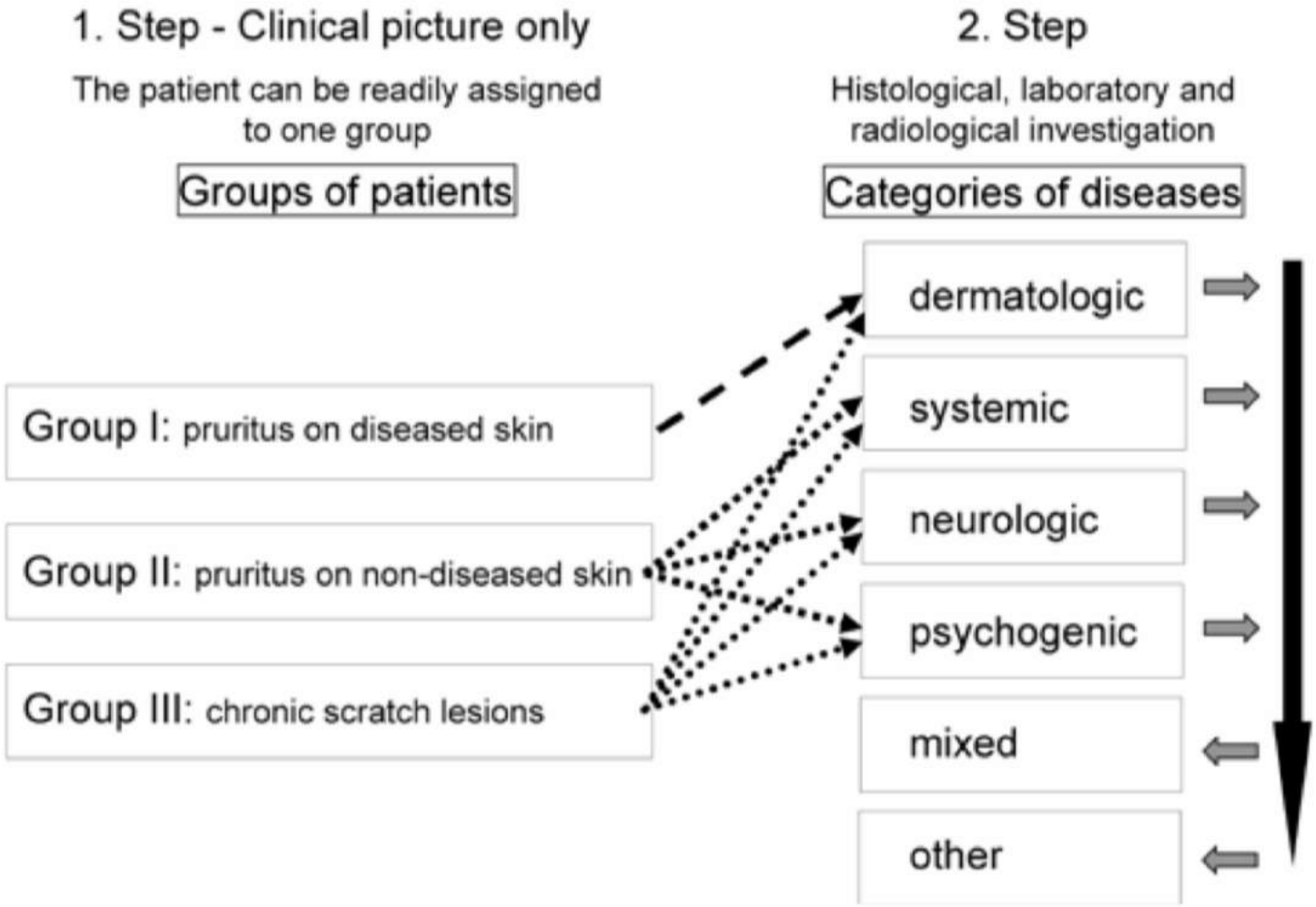
TYPE III Pruritus

DDx: Lichen Simplex Chronicus, Nodular Prurigo, eczema, brachioradialis etc

Mx
General measures
Topicals: Steroids, NeP formula, anti-septic (K permangnate saoks)
Clotrimazole if + fungal elements
Doxepin 5 -10mg
Coolants and/or anesthetic sprays prn
Imaging of the C-Spine (physiotherapy)

Salient Points

Determine Etiology



Chose treatment options based on likely etiology

Set Realistic Expectations as chronic pruritus is challenging to cure!

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  An approach to pruritus in the elderly

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