



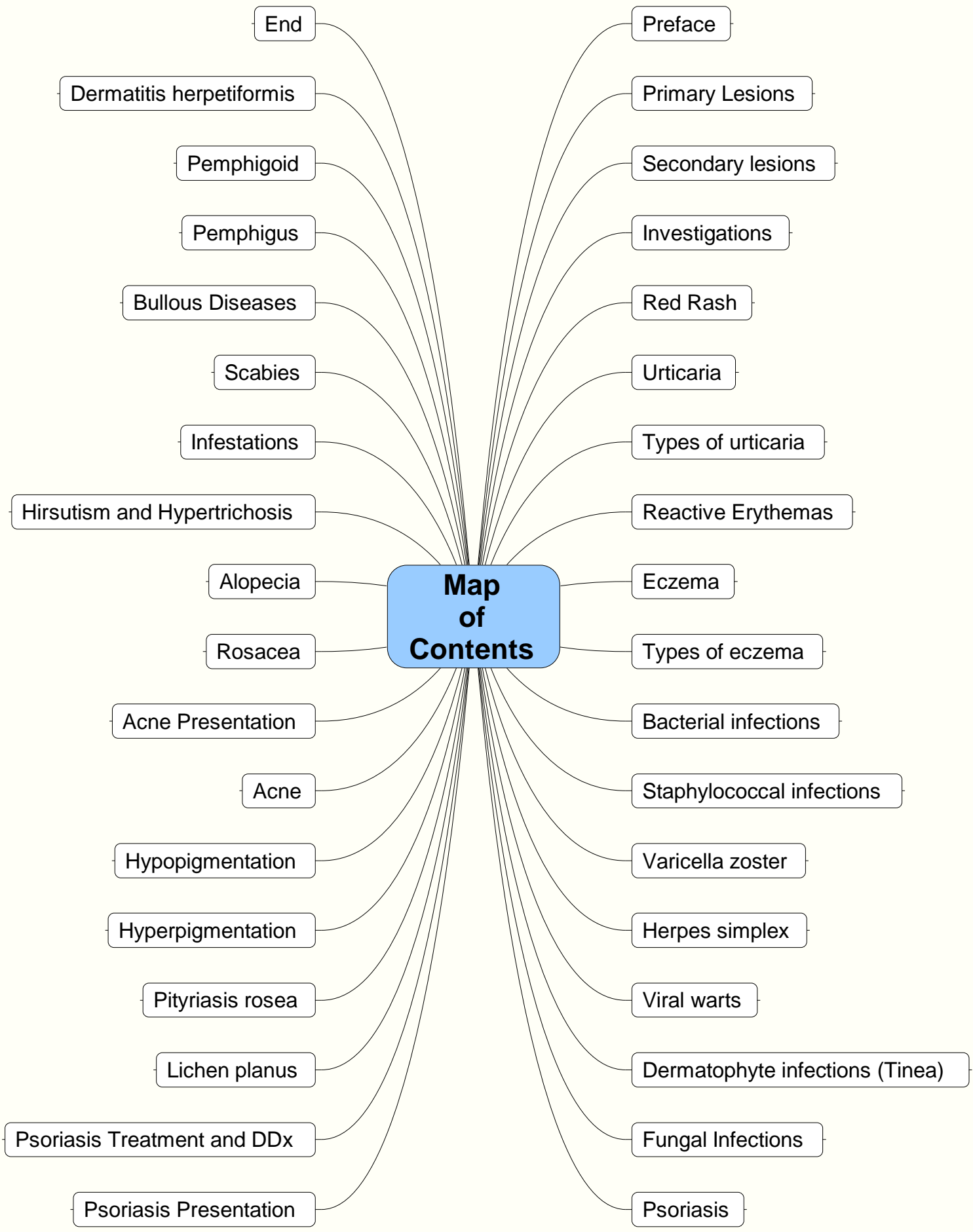
Dermatology Mind Maps

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"لا إله إلا أنت سبحانك إني كنت من
الظالمين, اللهم انفعني بما علّمتني، وعلّمني
ما ينفعني، وزدني علما"

Map of Contents



Primary lesions

Poikiloderma is a combination of atrophy, reticulate hyperpigmentation and telangiectasia.

Horn is a keratin projection that is taller than it is broad.

Telangiectasia is the visible dilatation of small cutaneous blood vessels.

Rosacea
Topical steroids

A **comedo** is a plug of greasy keratin wedged in a dilated pilosebaceous orifice. Open comedones are 'blackheads'. The follicle opening of a closed comedo is nearly covered over by skin so that it looks like a pinhead-sized, ivory-coloured papule.

A **burrow** is a linear or curvilinear papule, with some scaling, caused by a scabies mite.

Scabies

A **patch** is a large macule.

Melasma
vitiligo

A **haematoma** is a swelling from gross bleeding.

An **ecchymosis** (bruise) is a larger extravasation of blood into the skin and deeper structures.

Trauma
Post surgery

The term **purpura** describes a larger macule or papule of blood in the skin. Such blood-filled lesions do not blanch if a glass lens is pushed against them.

HSP

Petechiae are pinhead-sized macules of blood in the skin.

Vasculitis
Clotting disorder

A **papilloma** is a nipple-like projection from the skin.

A **tumour** is harder to define as the term is based more correctly on microscopic pathology than on clinical morphology. We keep it here as a convenient term to describe an enlargement of the tissues by normal or pathological material or cells that form a mass, usually more than 1 cm in diameter. Because the word 'tumour' can scare patients, tumours may courteously be called 'large nodules', especially if they are not malignant.

Erythroderma is a generalized redness of skin that may be scaling (exfoliative erythroderma) or smooth.

Eczema
Psoriasis
Lichen planus
Cutaneous Lymphoma

Erythema is redness caused by vascular dilatation.

Urticaria
cellulitis

A **papule** is a small solid elevation of skin, less than 0.5 cm in diameter.

Acne
Lichen planus

A **plaque** is an elevated area of skin greater than 2 cm in diameter but without substantial depth.

Psoriasis
Pityriasis rosea

A **macule** is a small flat area, less than 5 mm in diameter, of altered colour or texture.

Freckles
lentigines

A **vesicle** is a circumscribed elevation of skin, less than 0.5 cm in diameter, and containing fluid.

Herpes simplex
Chicken pox

A **bulla** is a circumscribed elevation of skin over 0.5 cm in diameter and containing fluid.

Pemphigus
Pemphigoid

A **pustule** is a visible accumulation of pus in the skin.

Acne
Pustular psoriasis

An **abscess** is a localized collection of pus in a cavity, more than 1 cm in diameter. Abscesses are usually nodules, and the term 'purulent bulla' is sometimes used to describe a pus-filled blister that is situated on top of the skin rather than within it.

Conglobate acne
Carbuncle

A **wheal** is an elevated white compressible evanescent area produced by dermal oedema. It is often surrounded by a red axon-mediated flare. Although usually less than 2 cm in diameter, some wheals are huge.

Angioedema is a diffuse swelling caused by oedema extending to the subcutaneous tissue.

A **nodule** is a solid mass in the skin, usually greater than 0.5 cm in diameter, in both width and depth, which can be seen to be elevated (exophytic) or can be palpated (endophytic).

Erythema nodosum
PAN

Secondary lesions

Pigmentation, either more or less than surrounding skin, can develop after lesions heal.

A **stria** (stretch mark) is a streak-like linear atrophic pink, purple or white lesion of the skin caused by changes in the connective tissue.

- Steroids
- Pregnancy

Lichenification is an area of thickened skin with increased markings.

- Eczema

Atrophy is a thinning of skin caused by diminution of the epidermis, dermis or subcutaneous fat. When the epidermis is atrophic it may crinkle like cigarette paper, appear thin and translucent, and lose normal surface markings. Blood vessels may be easy to see in both epidermal and dermal atrophy.

- Topical steroids
- Lichen sclerosis

A **scar** is a result of healing, where normal structures are permanently replaced by fibrous tissue.

- Acne
- Keloid

A **sinus** is a cavity or channel that permits the escape of pus or fluid.

A **scale** is a flake arising from the horny layer. Scales may be seen on the surface of many primary lesions

- Psoriasis
- Lichen planus

A **keratosis** is a horn-like thickening of the stratum corneum.

A **crust** may look like a scale, but is composed of dried blood or tissue fluid.

- Impetigo
- Ecthyma

An **ulcer** is an area of skin from which the whole of the epidermis and at least the upper part of the dermis has been lost. Ulcers may extend into subcutaneous fat, and heal with scarring.

An **erosion** is an area of skin denuded by a complete or partial loss of only the epidermis. Erosions heal without scarring.

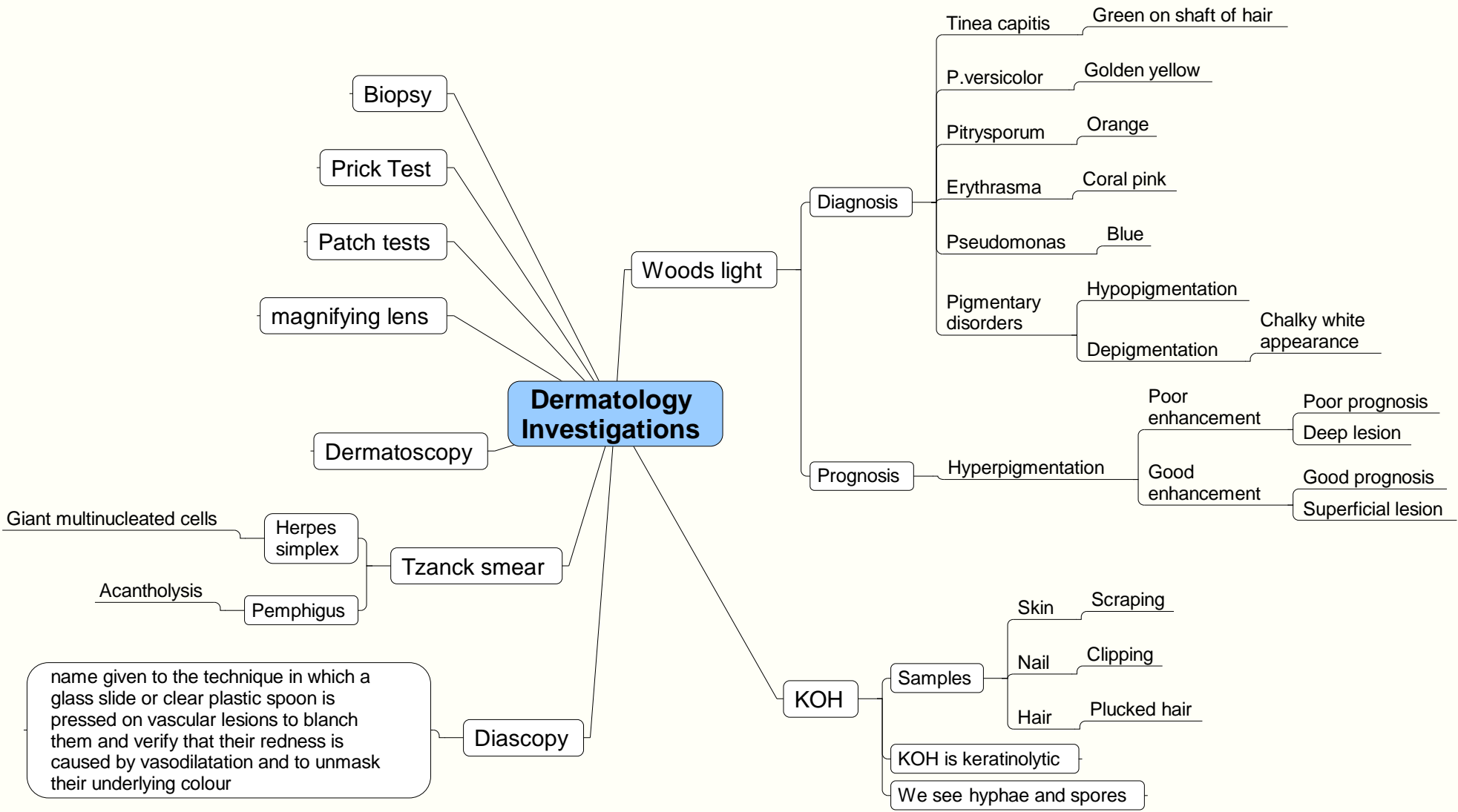
- Eczema
- Pemphigus

An **excoriation** is an ulcer or erosion produced by scratching.

- Scabies
- Eczema

A **fissure** is a slit in the skin.

- Eczema



Red Rash

Non-scaly

Blanchable

Urticaria <24h

Erythema Multiforme
1-2 Weeks
Acrofacial
Target lesions

Erythema nodosum
4-6 Weeks
Shines
Painful
Nodules
Bruises on resolving

Non-Blanchable

Vasculitis
Bleeding disorder

Scaly

Margins

ill Defined Eczema
Commonest skin disease

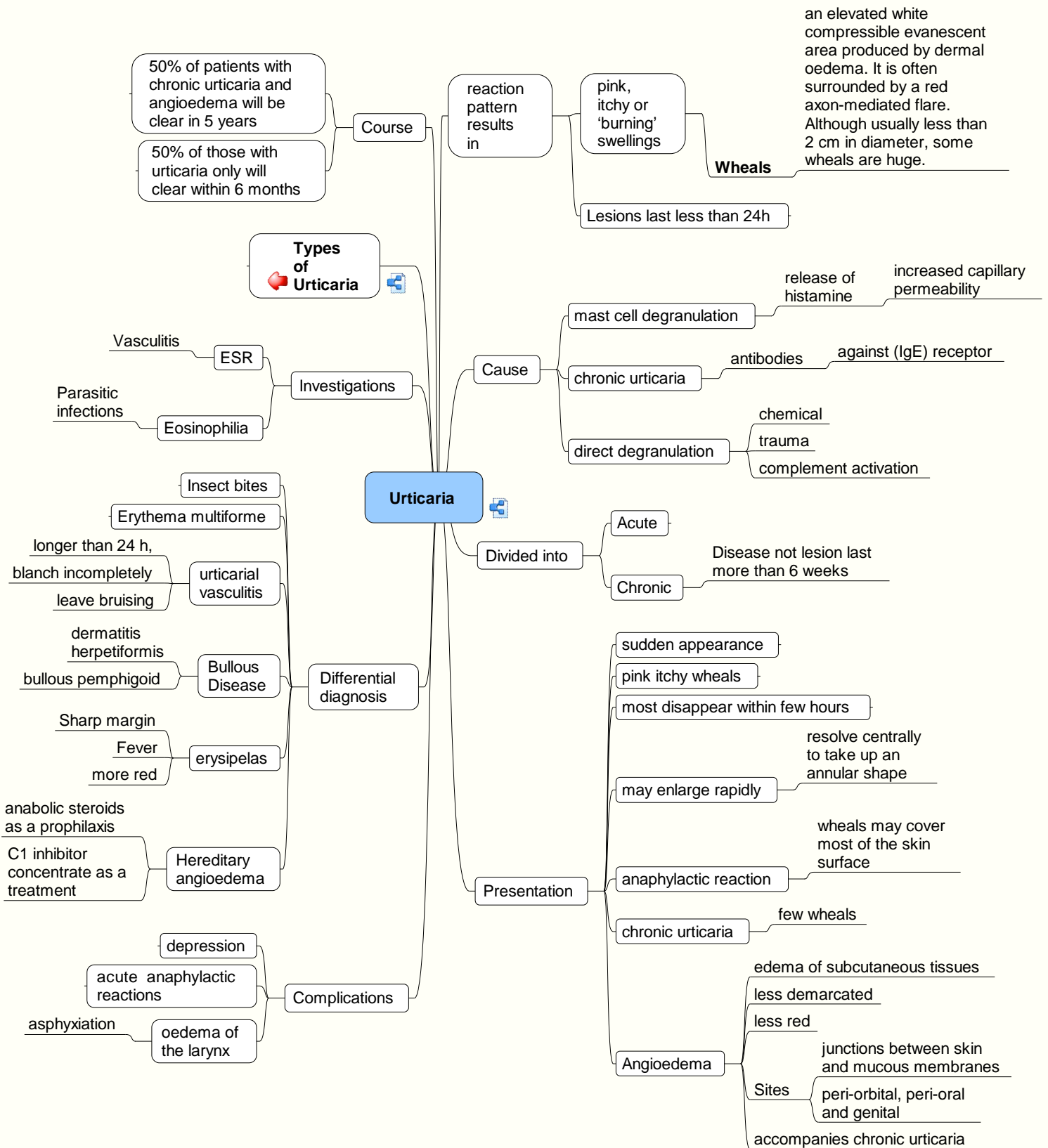
Unilateral Fungal infections

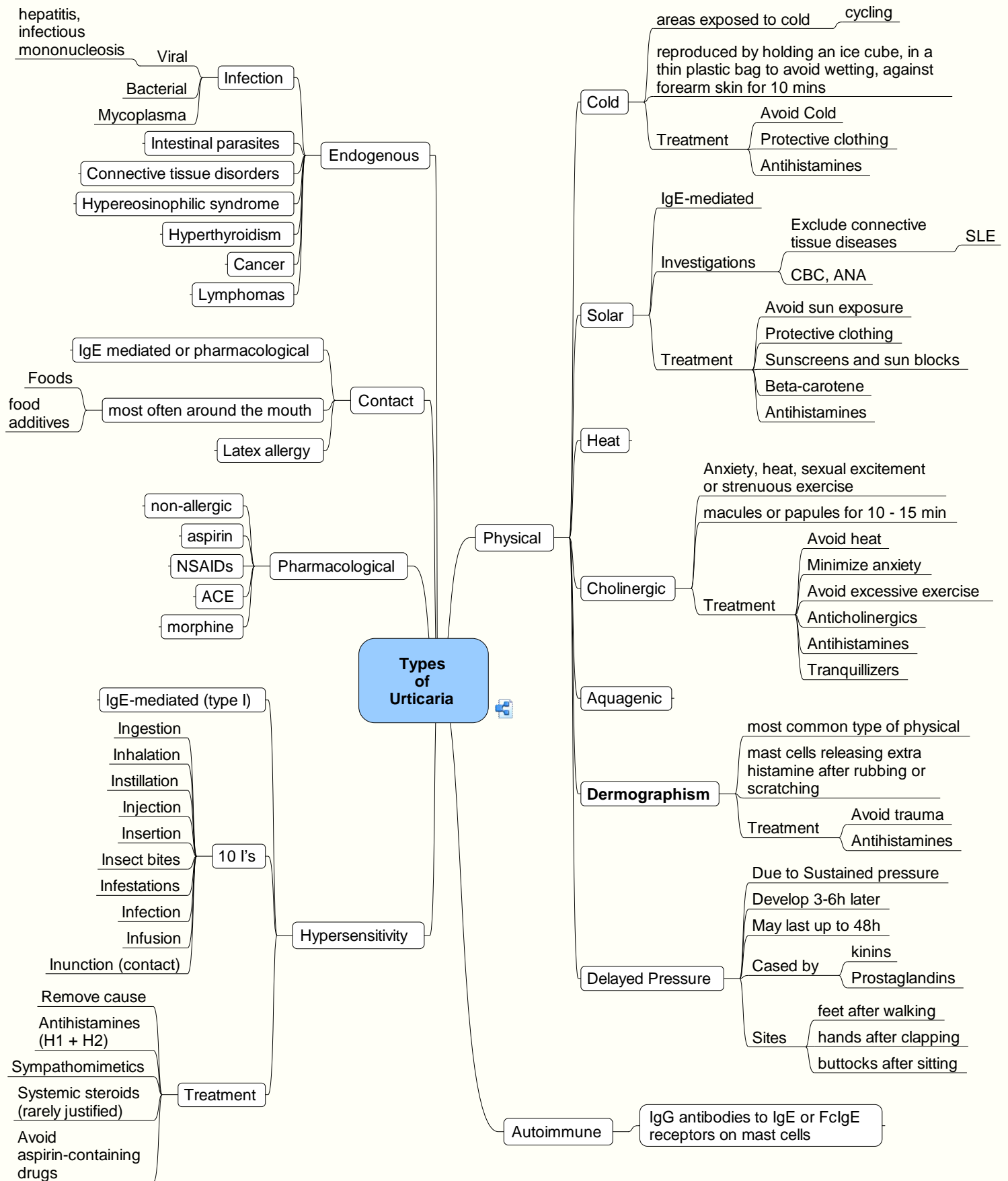
Psoriasis
Commonest

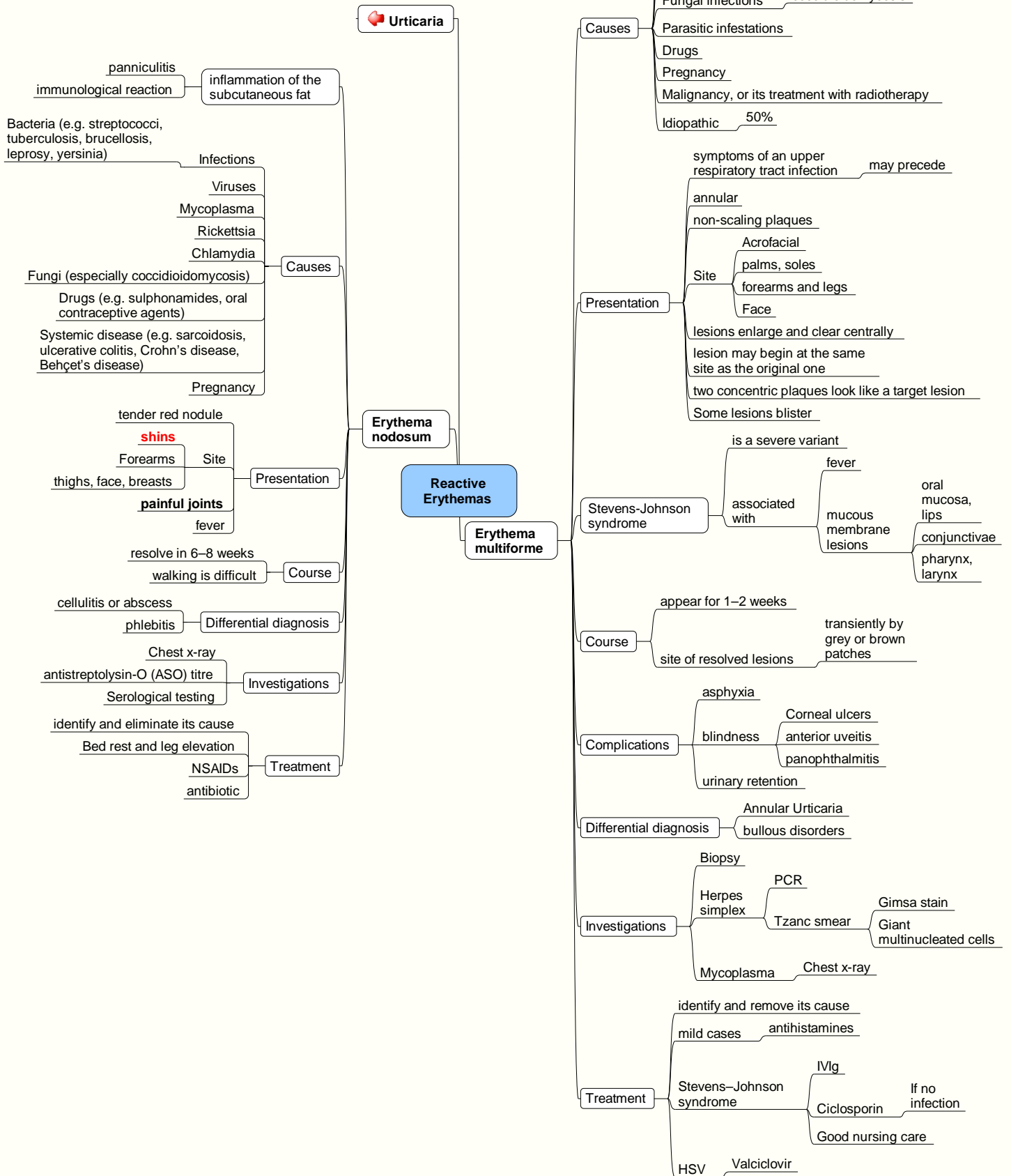
Well Defined

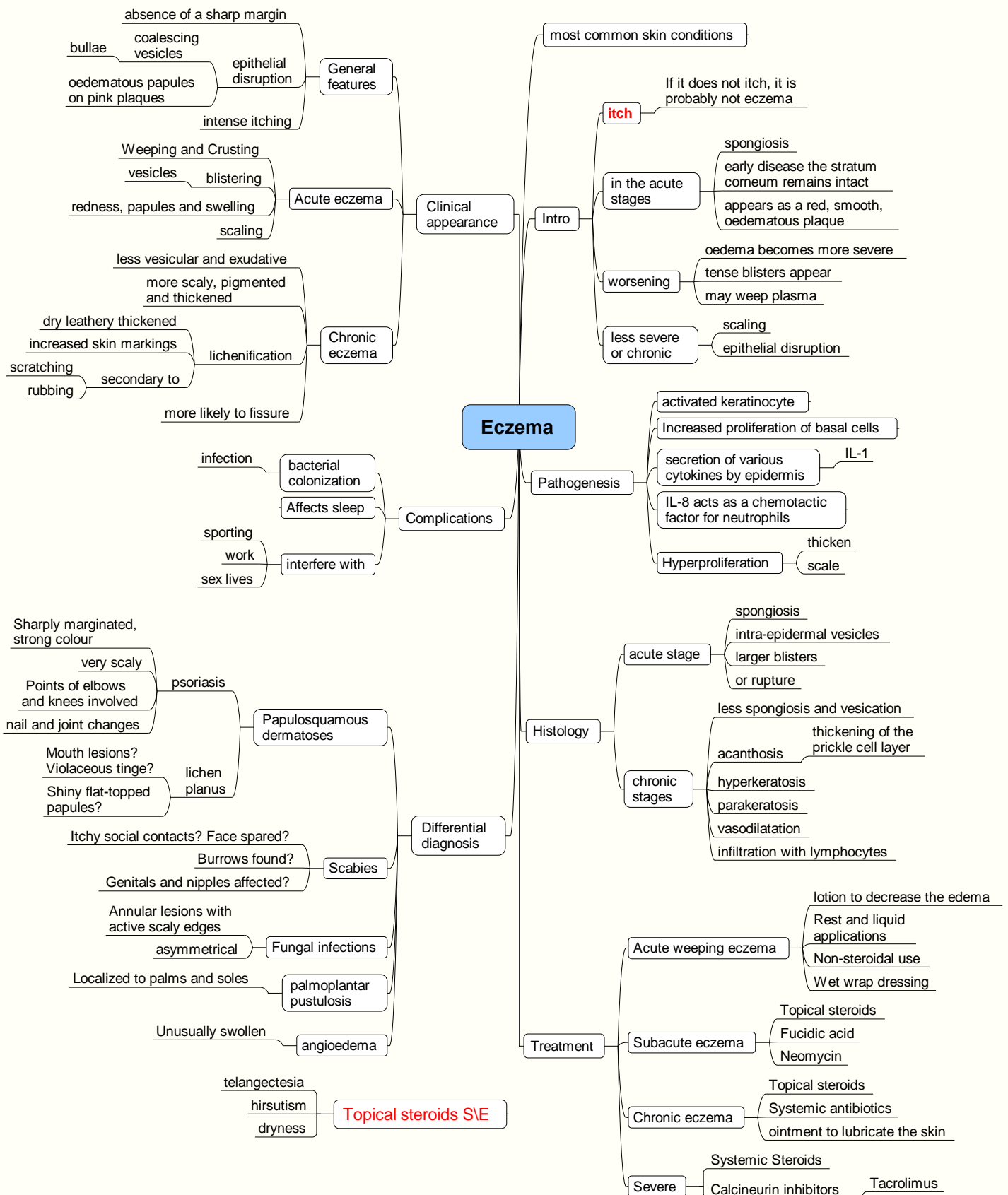
Bilateral Lichen Planus
5P
Purple
Pruritic
Papule
Plane
Polygonal

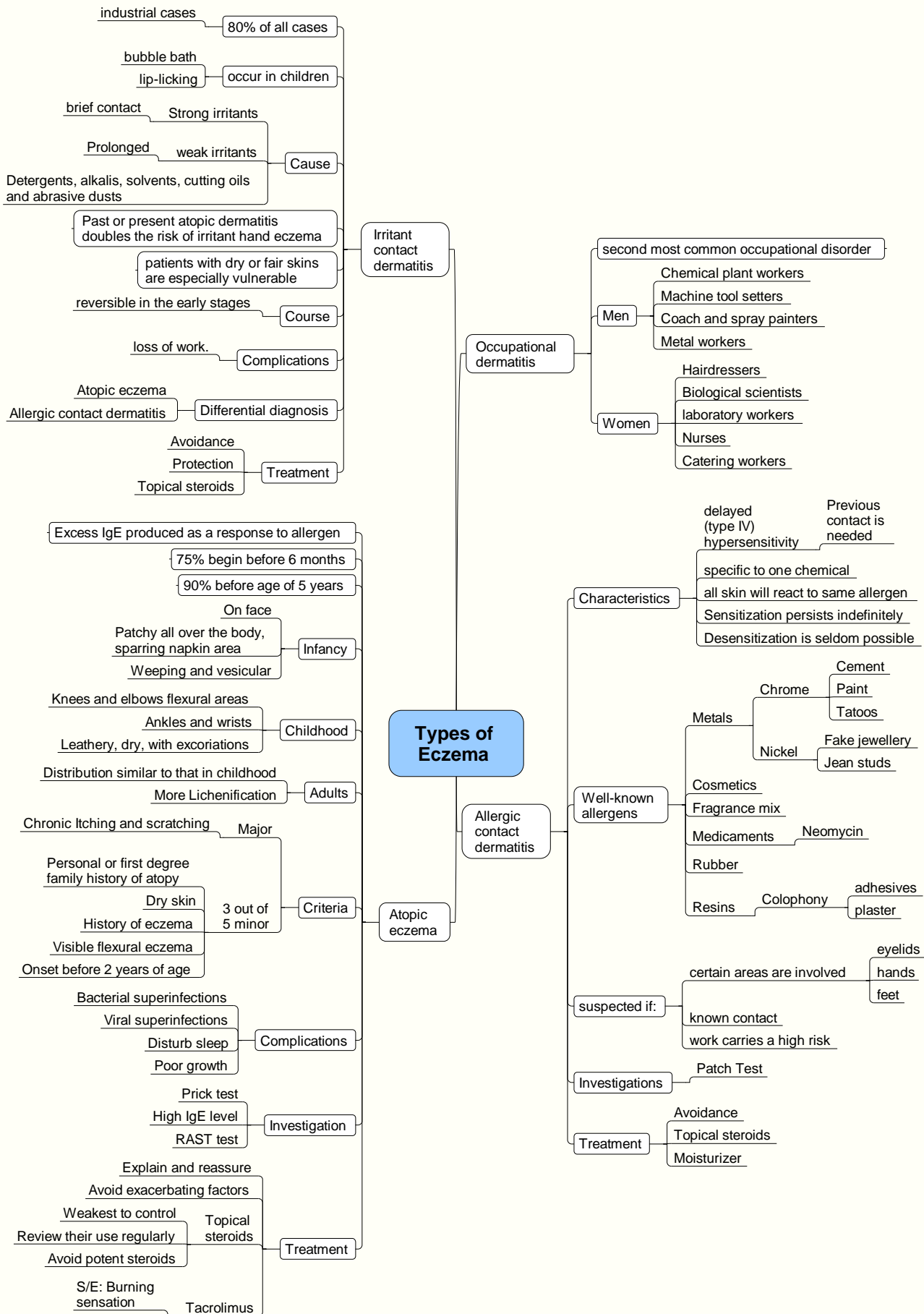
Pityriasis 2-10 weeks

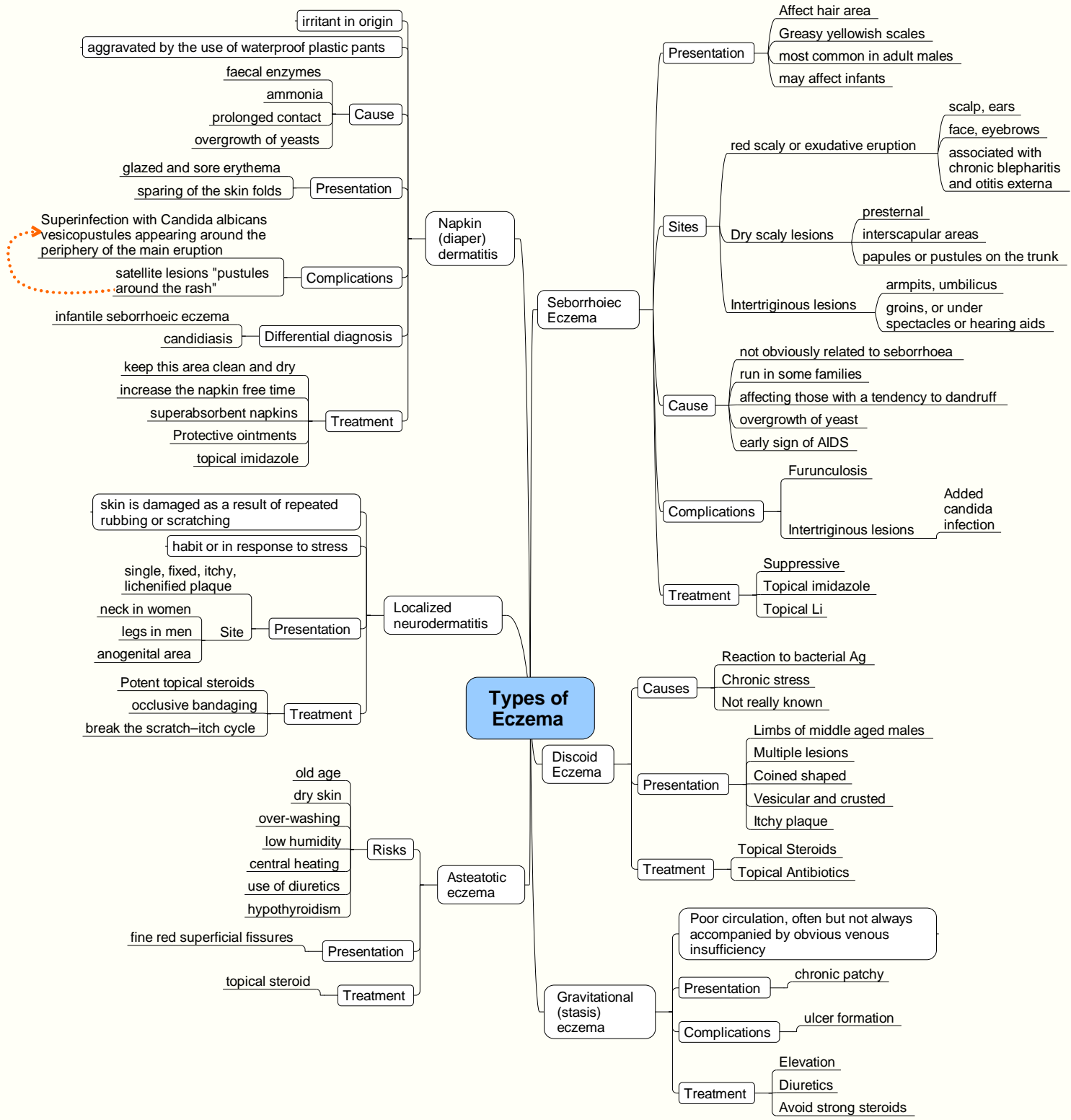


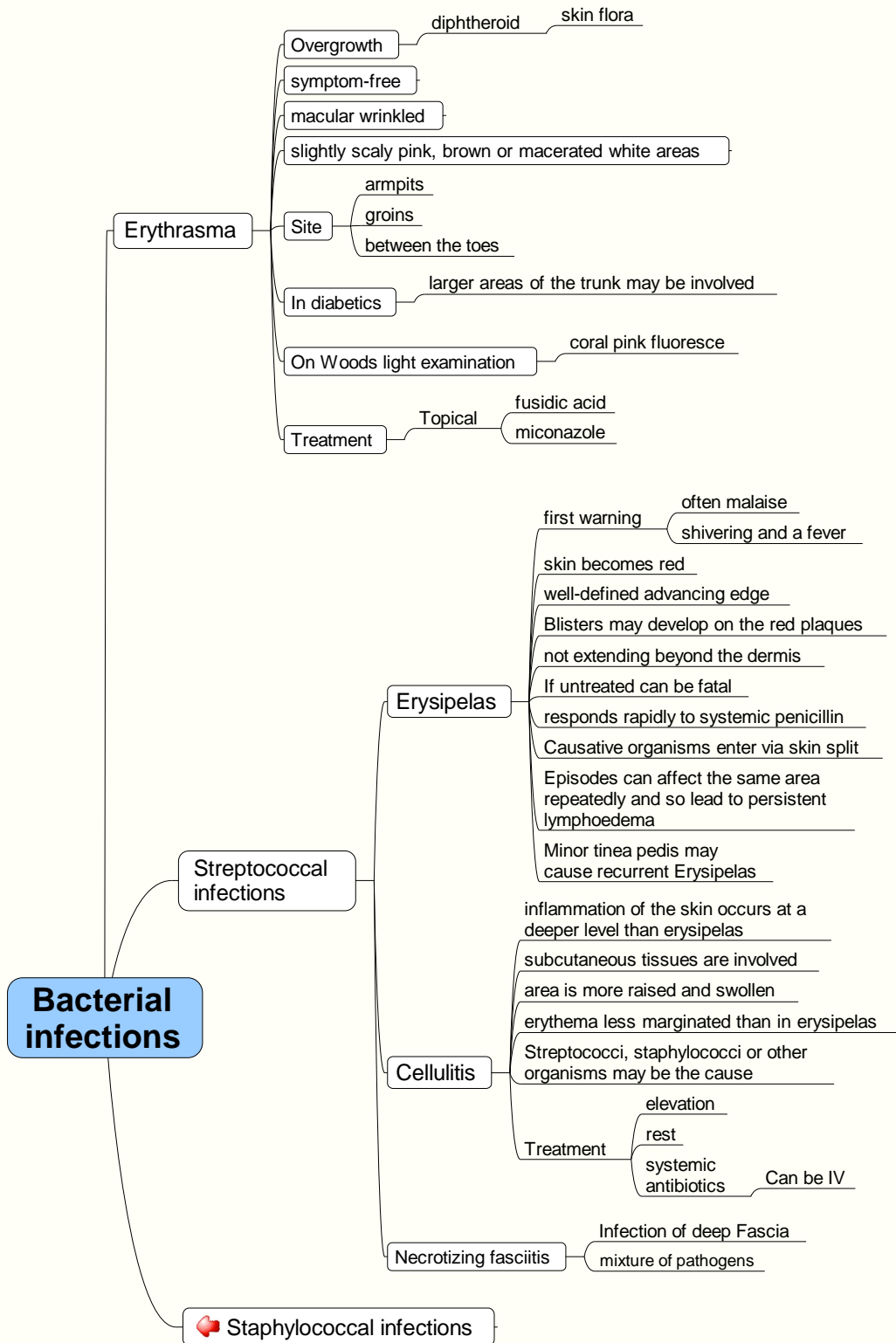












Staphylococcal infections

Staphylococcus aureus

- not part of the resident flora
- Carriage
 - Mostly nostrils
 - perineum
 - armpits

- caused by
 - staphylococci
 - streptococci
- Types
 - bullous type
 - Exfoliative toxins
 - desmoglein 1
 - toxin is localized
 - bullous impetigo
 - Not local
 - scalded skin syndrome
 - crusted ulcerated type
 - beta hemolytic streptococcus

- highly contagious
- Presentation
 - the erosion is at the **stratum corneum**
 - thin-walled flaccid clear blister
 - may become pustular
 - Rupture leaving yellow exudate and crust
 - Multiple lesion
 - Around face
 - heals without scarring
- Course
 - clear even without treatment
- Complications
 - acute glomerulonephritis
- Differential diagnosis
 - Recurrent impetigo
 - search for scalp lice
- Investigation and treatment
 - Gram stain and culture
 - Systemic antibiotics
 - cefalexin
 - minor cases
 - topical antibiotic

Impetigo

Ecthyma

- ulcers forming under a crusted surface infection
- crust is blackish
- ulcer is full thickness
- heals with scarring

Carbuncle

- group of adjacent hair follicles becomes deeply infected with
 - Staphylococcus aureus
- must exclude DM
- swollen painful suppurating area
- discharging pus
- pain and systemic upset are greater than those of a boil
- Treatment
 - topical and systemic antibiotics
 - Incision and drainage

Scalded skin syndrome

- Erythema and tenderness
- followed by the loosening of large areas of overlying epidermis
- Occurs mostly in children
- Exfoliative toxins
 - affects desmoglein 1
- Cause
 - Organism is localized but the toxin is widespread
 - Affects only stratum corneum
- Differential diagnosis
 - full thickness
 - In adults
 - toxic epidermal necrolysis
 - usually drug induced

Furunculosis

- (boils)
- acute pustular infection of a hair follicle
- cause
 - Staphylococcus aureus
- predisposing factors
 - source (carrier)
 - host (low immunity as DM and systemic steroids)
 - route (skin disease, minor trauma)
- Presentation and course
 - mainly adolescent boys
 - tender red nodule
 - enlarges
 - May discharge pus
 - leave a scar
 - Fever and enlarged draining nodes are rare
 - Most patients have one or two boils only
 - suggests a virulent staphylococcus
 - appearance of many
- chronic furunculosis
 - Due to
 - susceptibility of follicles
 - colonization of nares or groins
- Complications
 - Cavernous sinus thrombosis
 - Septicaemia
- Differential diagnosis
 - if only
 - the groin and axillae are involved
 - hidradenitis suppurativa
- Investigations in chronic furunculosis
 - General examination
 - underlying skin disease
 - Culture swabs
 - Test the urine for sugar. Full blood count
 - lesions and carrier sites
 - Immunological evaluation
- Treatment
 - Acute episodes
 - simple incision and drainage
 - if it is associated with fever and systemic symptoms
 - antibiotics
 - chronic furunculosis
 - treat carrier sites
 - appropriate topical antiseptic or antibiotic
 - systemic antibiotic
 - In stubborn cases
 - Daily bath using an antiseptic soap
 - Improve hygiene and nutritional state

- Cause
 - staphylococcal toxin
 - Follow overgrowth of staph in vagina
 - Associated with using tampons.
- Presentation
 - fever
 - rash
 - widespread erythema
 - circulatory collapse
 - Fingers
 - desquamation
 - Hand

Varicella zoster

Herpes zoster Varicella

varicella-zoster
 result of the reactivation

virus that has remained dormant in a sensory root ganglion

Occur in
 old age
 Hodgkin's disease
 AIDS
 leukaemia

patients with zoster can transmit the virus to others

Presentation
 start with a burning pain
 followed by erythema
 grouped, sometimes blood-filled, vesicles
 over a dermatome
 clear vesicles quickly become purulent
 a few days burst and crust
 leaving depressed depigmented scars
 characteristically unilateral
 thoracic segments
 ophthalmic division
 trigeminal nerve
 Affects commonly

Complications
 Secondary bacterial infection
 ocular muscles, facial muscles, diaphragm, bladder
 Motor nerve involvement
 corneal ulcers and scarring
 Zoster of the ophthalmic division
 Persistent neuralgic pain

Differential diagnosis
 before the rash
 appendicitis
 myocardial infarction

Investigations
 Biopsy or Tzanck smear

Treatment
 Systemic treatment
 to all patients within the first 5 days of an attack
 Reduces post-herpetic neuralgia
 rest, analgesics, calamine
 supportive
 carbamazepine, gabapentin, amitriptyline
 systemic post-herpetic neuralgia

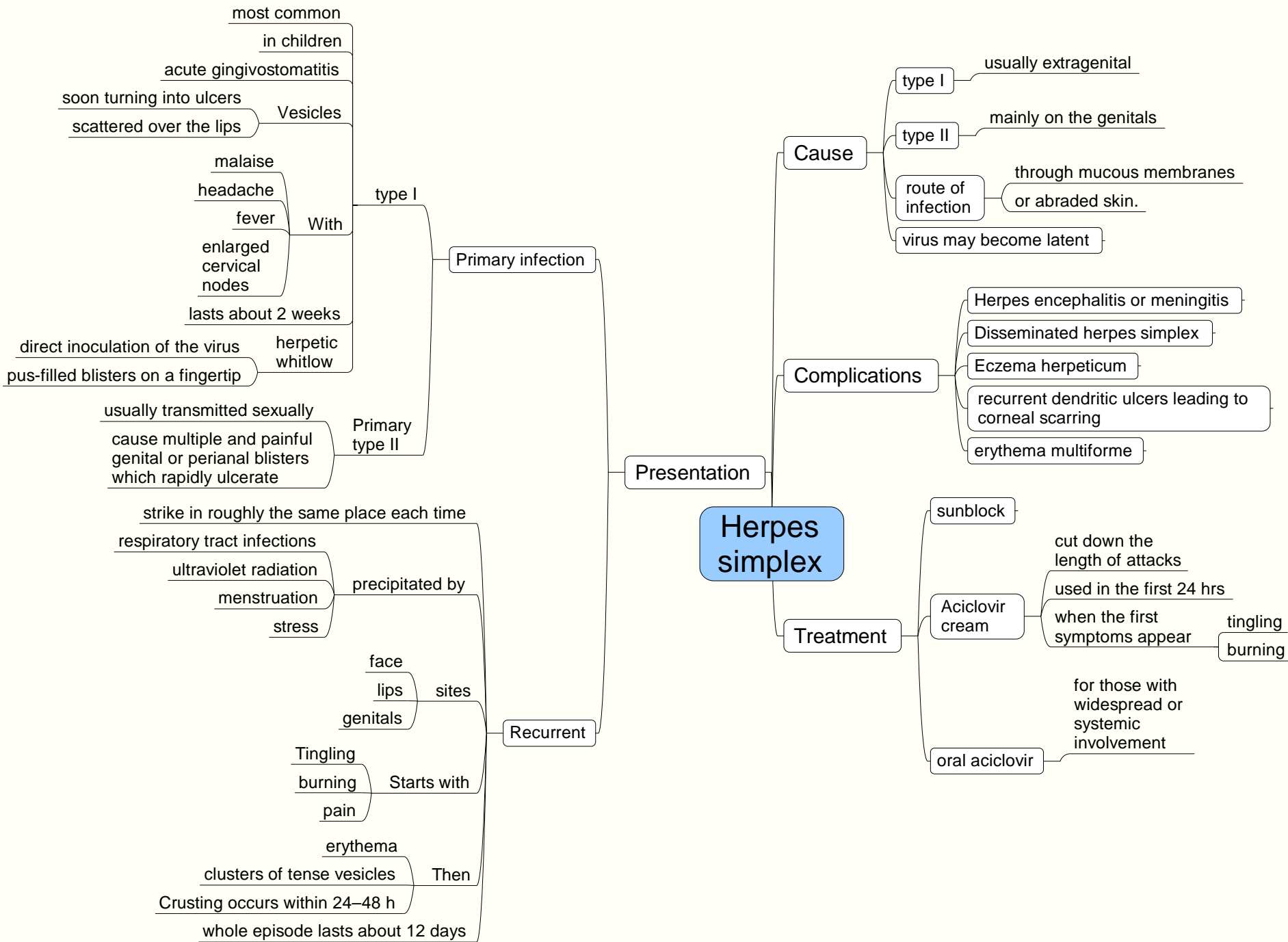
spread by the respiratory route
 Slight malaise
 itchy papules
 clear vesicles pink base
 pustules
 next few days the lesions crust and then clear
 sometimes leaving white depressed scars
 Site centripetal
 Mostly on trunk
 Second attacks are rare

Complications
 Pneumonitis
 Secondary infection of skin lesions
 Haemorrhagic or lethal chickenpox
 Scarring

Differential diagnosis
 Smallpox

Investigations
 Tzanck smear

Treatment
 live attenuated vaccine prophylactic
 Systemic Aciclovir Patients under 2 or older than 12
 Otherwise calamine lotion topically



Viral warts

prevalence is highest in childhood

Cause
 HPV → human papilloma virus

Treatment

- 1st choice:
 - Wart Paint: salicylic acid, Keratolytic, applied for at least 3 months. **Except on face and on genital area**
- genital warts: imiquimod, podophyllotoxin
- cryotherapy: with liquid nitrogen
- electrosurgery
- laser
- Surgery Contraindicated: Scarring

Differential diagnosis

- Molluscum contagiosum
- Plantar corns
- Condyloma lata

Complications

- Some plantar warts are very painful
- Epidermodysplasia verruciformis
- Malignant change: cervical carcinoma

Course

- resolve spontaneously in the healthy people
 - within 6 months in 30%
 - within 2 years in 65%
- Mosaic warts are notoriously slow to resolve and often resist all treatments
- persist and spread in immunocompromised

Presentation

Common warts

- first: smooth skin-coloured papule
- Then lesion enlarges
- And has irregular hyperkeratotic surface
- Gives classic 'wart' appearance
- Site: hands, face, genitals
- often multiple than single
- Painless

Plantar warts

- rough surface
- protrudes only slightly from the skin
- surrounded by a horny collar
- On paring:
 - presence of bleeding
 - distinguishes it from corns
 - also interruption of skin lines
- painful

Mosaic warts

- rough marginated plaques
- made up of many small, tightly packed warts
- Sites: soles, palms, around finger nails
- Painless

Plane warts

- smooth flat-topped
- skin-coloured or light brown
- Site: most common on the face and brow, backs of the hands, shaven legs
- resolve spontaneously
- multiple
- painless

Facial warts

- most common in the beard
- spread by shaving
- ugly but are painless

Anogenital warts

- condyloma acuminata
- cauliflower-like lesions
- may coalesce to form huge fungating plague
- vaginal and anorectal mucosae may be affected
- Must look for other STDs**

Dermatophyte infections (Tinea)

Cause

- Trichophyton – skin, hair and nail infections
- Microsporum – skin and hair
- Epidermophyton – skin and nails
- Spread either
 - zoophilic Animal to human
 - anthropophilic Human to human

Treatment

- Local
 - imidazole
 - miconazole
 - clotrimazole
 - terbinafine
- Systemic
 - Terbinafine
 - Itraconazole
 - Griseofulvin
- Indications
 - for minor skin infections
 - Tinea Capitis
 - Tinea of the nail
 - Widespread infections
 - Resistant infections
- Drug of choice in Tinea Capitis

Presentation

- Tinea pedis**
 - (athlete's foot)
 - most common type of fungal infection
 - Risk sharing of wash places
 - three patterns
 - Soggy interdigital scaling, particularly in the fourth and fifth interspace
 - diffuse dry scaling of the soles
 - Recurrent episodes of vesication
- Tinea of the nails**
 - associated with tinea pedis
 - initial changes occur at the free edge of the nail
 - Nail becomes crumbly
 - Yellow Discoloration
 - Subungual hyperkeratosis
 - Onycholysis Separation of the nail plate from its bed
- Tinea of the hands**
 - usually asymmetrical
 - associated with
 - tinea pedis
 - unilateral onychomycosis
 - powdery scale in the creases
- Tinea of the groin**
 - common
 - affects men more
 - sometimes unilateral
 - upper inner thigh is involved
 - lesions expand slowly
 - sharply demarcated plaques with peripheral scaling
 - scrotum is usually spared
 - few vesicles or pustules can occur
- Tinea of the trunk and limbs corporis**
 - plaques with scaling and erythema most pronounced at the periphery
 - few vesicles or pustules can occur
 - lesions expand slowly and healing in the center leaves a typical ring-like lesion
- Tinea of the scalp (Capitis)**
 - disease of children
 - Causing a patch of red scaly non-scarring hair loss
 - Variant with more intense inflammation
 - boggy swelling
 - inflammation
 - pustulation
 - lymphadenopathy
 - Causing permanent scarring hair loss
 - looks like a carbuncle Must be differentiated
 - Favus**
 - yellowish crusts
 - Causing permanent scarring hair loss

Investigations

- Wood's light
 - In Tinea Capitis
 - Green fluorescence on the hair shaft
 - Not present in all cases
 - The most common cause *Trichophyton tonsurans* gives negative result
- Samples
 - Scraping Skin
 - scaly margin
 - Clipping Nail
 - Crumbly area
 - Plucked hair Hair
- Use KOH preparation
 - KOH is keratinolytic
 - We see hyphae and spores
- Fungal Cultures

Complications

- permanent scarring alopecia
- vesication on the sides of the fingers and palms
- Epidemics of ringworm
- tinea incognito
 - Masking of usual signs of Infection by mistreatment with topical steroids

Candida albicans is a classic opportunistic pathogen

- obesity
- moisture
- maceration
- immobility
- diabetes
- pregnancy
- use of broad-spectrum antibiotics
- contraceptive pill
- Immunosuppression
- Leucopenia
- Thymic tumours
- Low serum iron
- Endocrinopathy
- Immersion in water
- Cold hands
- Poor hygiene

predisposing factors

whitish adherent plaque with erythematous base, in denture wearers

Oral candidiasis

in body folds, erythema and maceration with satellite papulopustules

Candida intertrigo

Genital candidiasis

- usually bacterial
- Staph. Aureus

Acute

Candida

- proximal and sometimes the lateral nail folds
- cuticles are lost

small amounts of pus can be expressed

nail plate becomes ridged and discoloured

chronic

Paronychia

- wet work
- poor peripheral circulation
- vulval candidiasis

Predisposing factors

systemic and topical antifungal

Chronic mucocutaneous candidiasis

Systemic candidiasis

culture Swabs

Investigation

Predisposing factors should be sought and eliminated

Amphotericin, nystatin and the imidazole

Treatment

Fungal Infections

Candidiasis

Pityriasis versicolor

Cause

- old name: tinea versicolor
- regarded as non-infectious
- Pityrosporum orbiculare*
 - commensal yeasts
 - Overgrowth
- Carboxylic acids released by the organisms inhibit the increase in pigment production by melanocytes

Presentation

- superficial scaly patches
- fine wrinkling
- slightly itchy
- fawn or pink on non-tanned skin
- paler than the surrounding skin after exposure to sunlight
- Site
 - upper trunk
 - can become widespread
- Untreated lesions persist

Treatment

slow to regain their former colour

Differential diagnosis

- Vitiligo
 - border is clearly defined
 - scaling is absent
 - lesions are larger
 - Affect limbs and face more
 - depigmentation is more complete

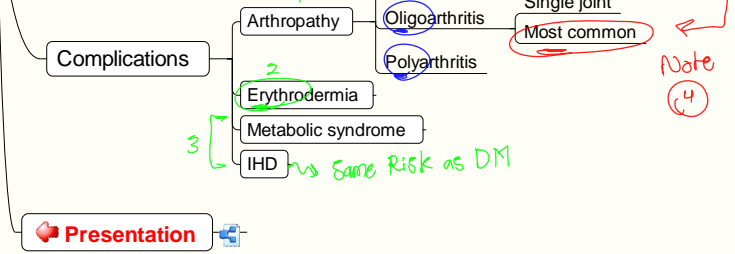
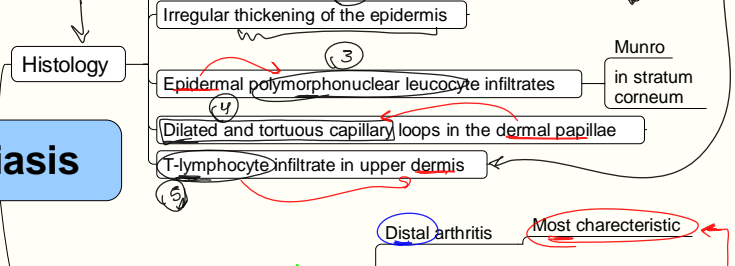
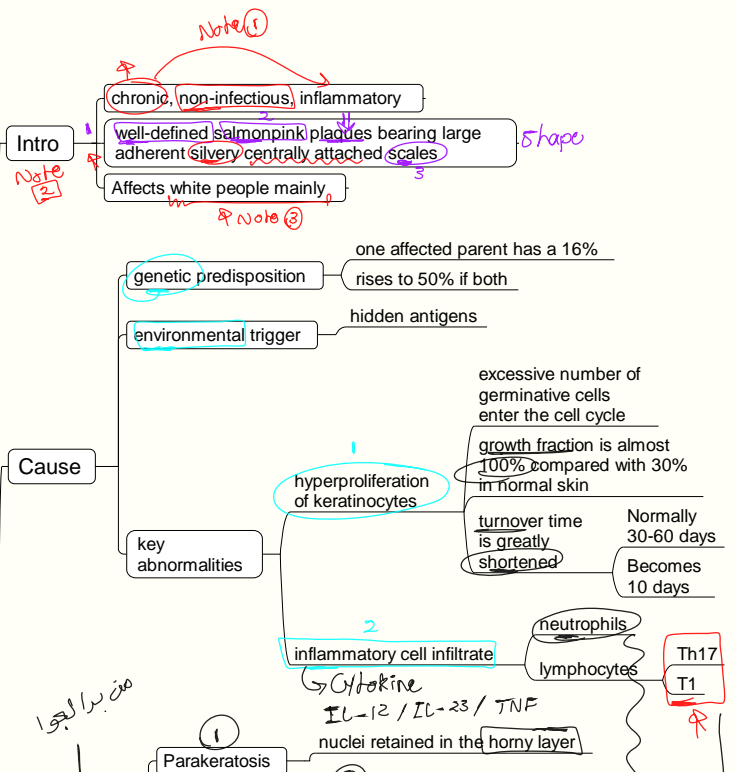
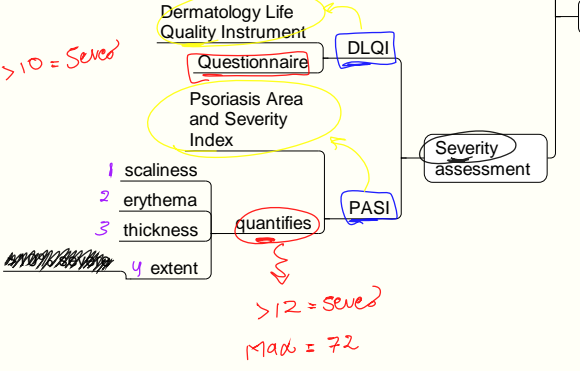
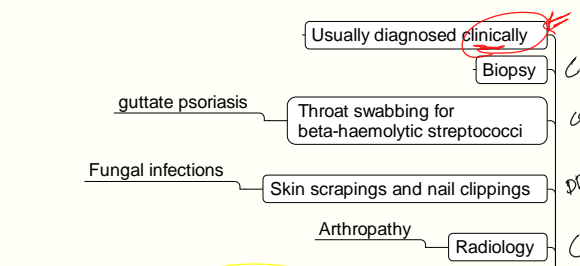
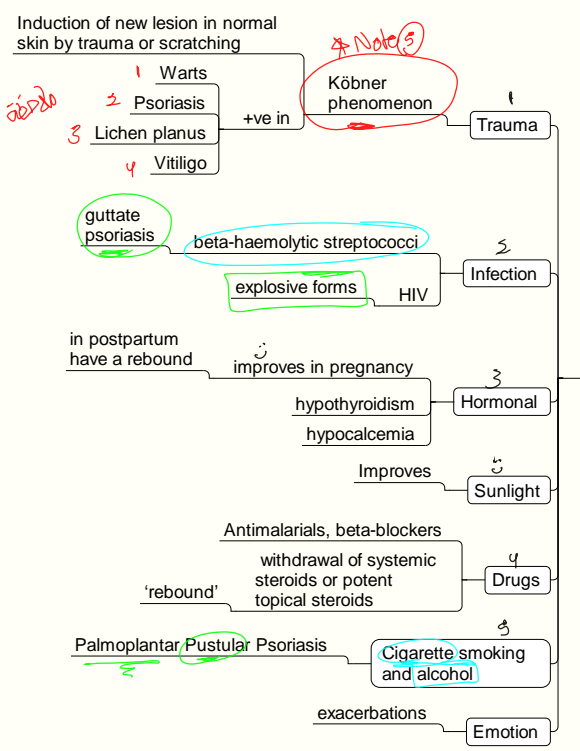
Investigations

- Scrapings
 - KOH
 - branched hyphae and spores
 - 'spaghetti and meatballs' appearance
 - wood's light
 - golden yellow

Treatment

topical preparation imidazole group

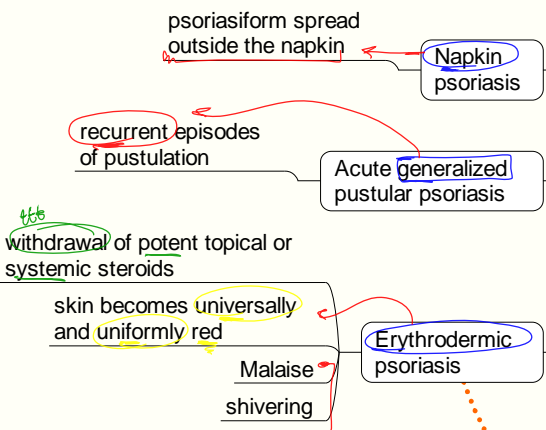
Psoriasis



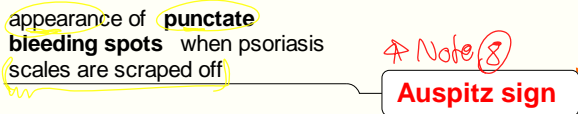
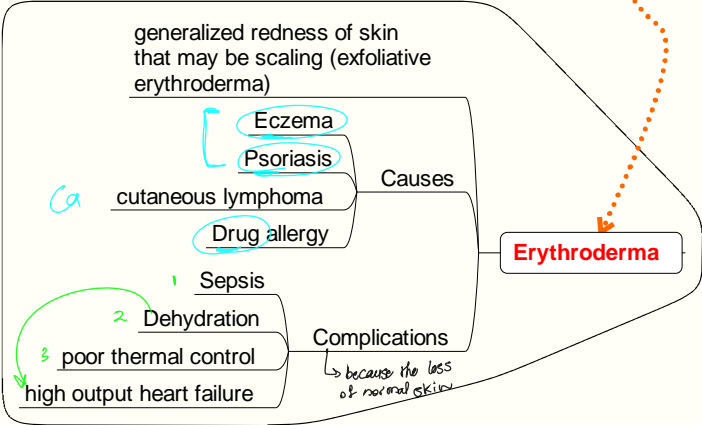
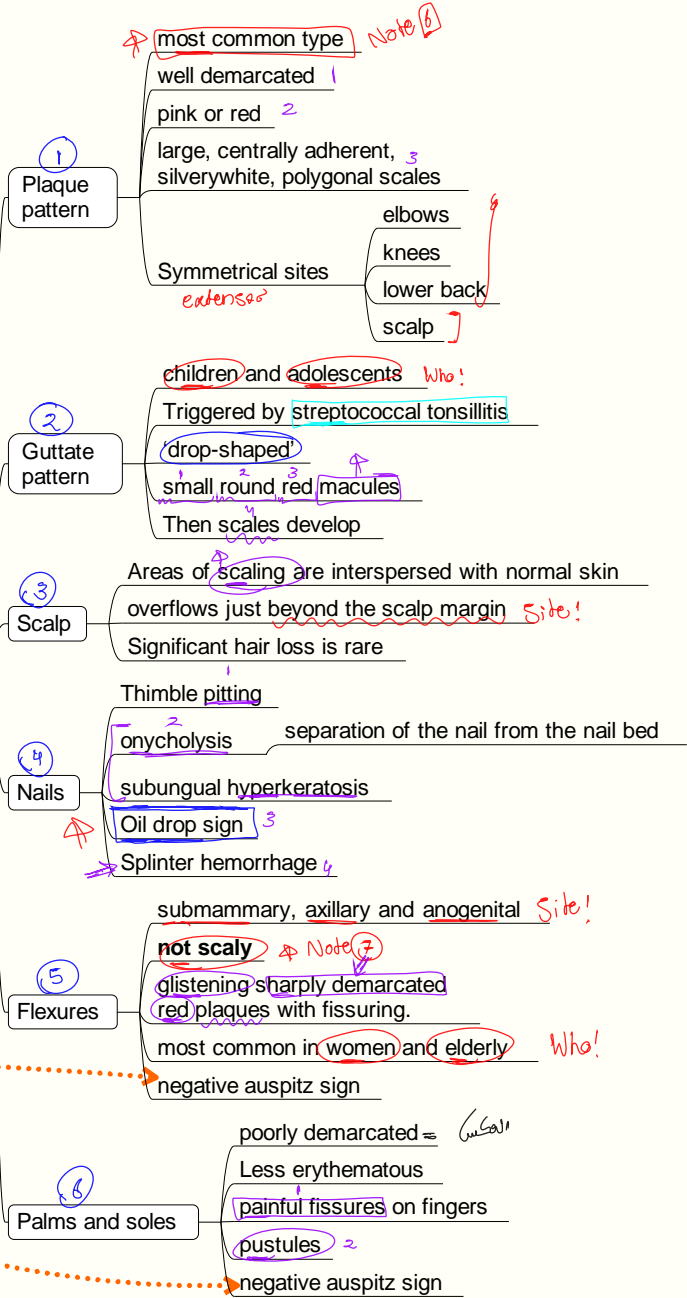
Presentation

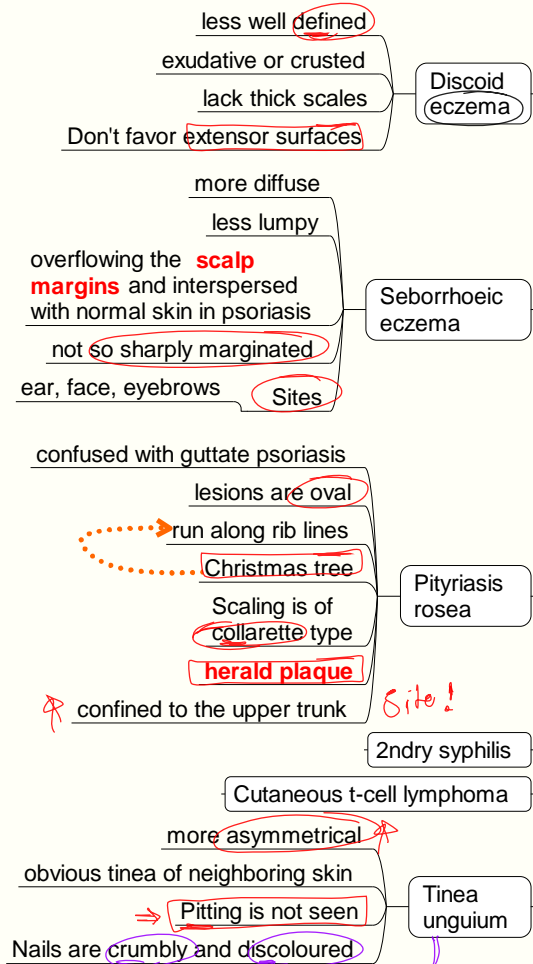
Psoriasis Presentation

Less common patterns



Common patterns

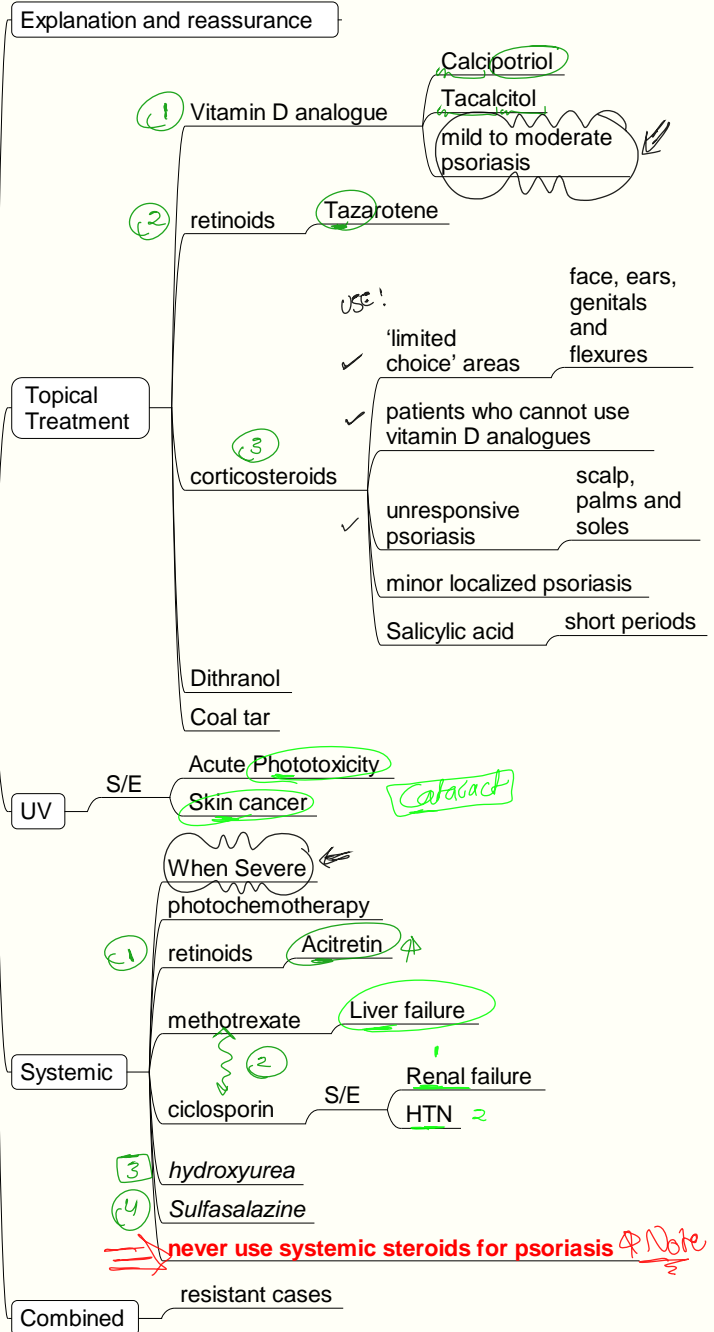




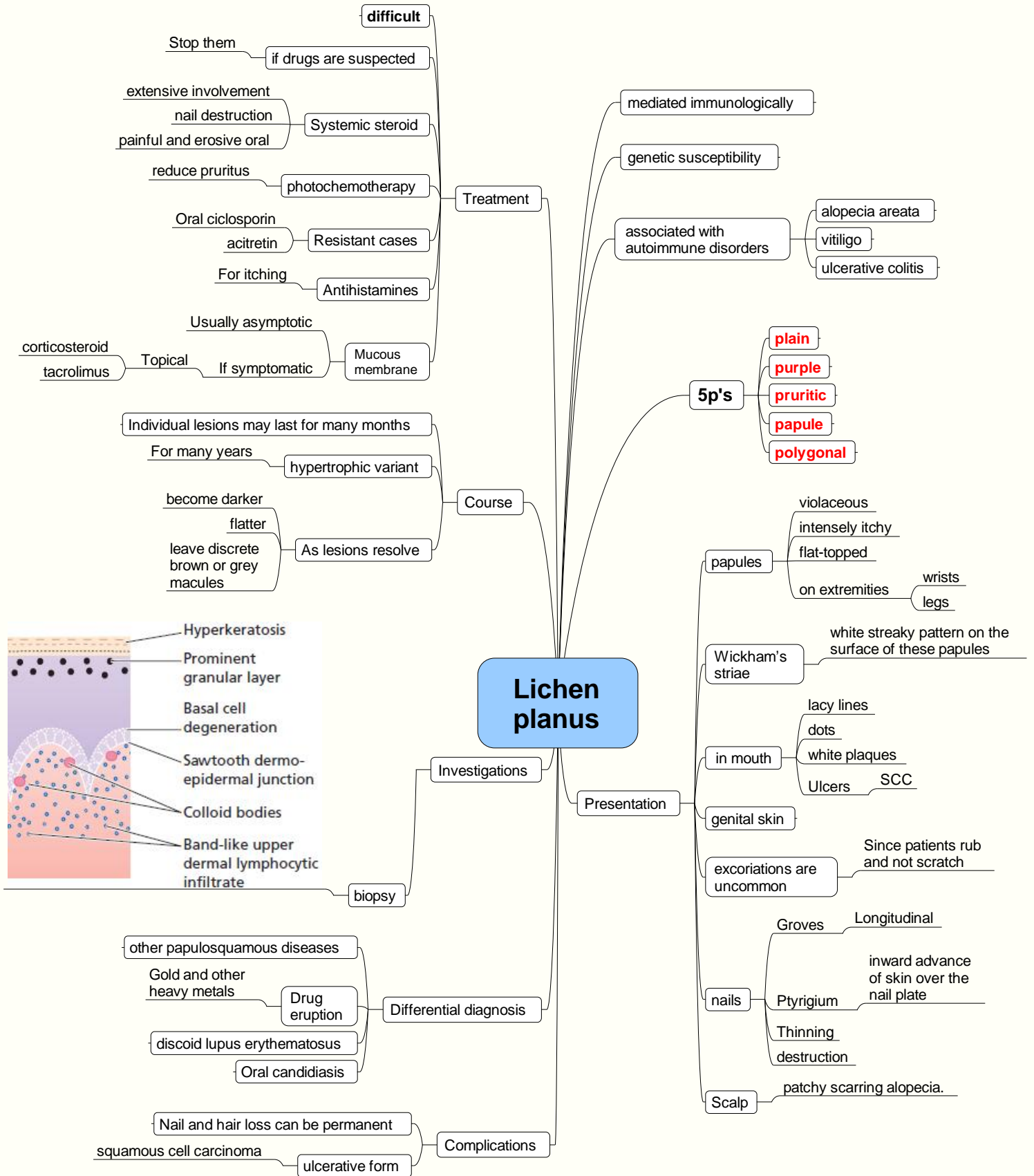
Differential diagnosis

Psoriasis Treatment and DDx

Treatment



Lichen planus



Pityriasis rosea

Cause

reactivation of herpes virus 7
herpes virus 6.

Course

- herald plaque precedes the generalized eruption
- Subsequent lesions enlarge
- systemic symptoms such as aching and tiredness
- eruption lasts 2–10 weeks
- resolves spontaneously
- leaving hyperpigmented patches

Presentation

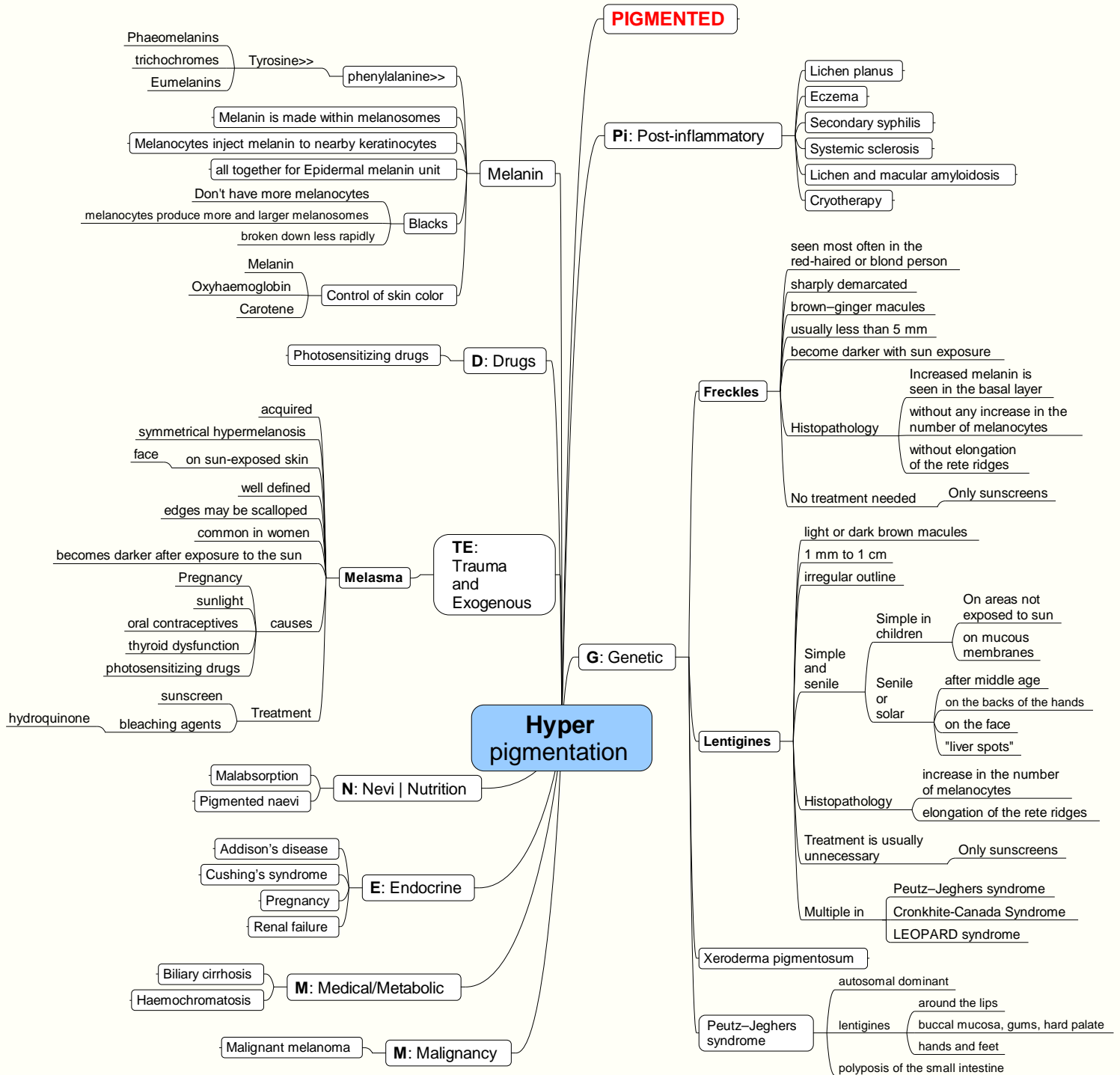
- Common during winter
- affects children and young adults
- second attacks are rare
- At first herald or 'mother' plaque
 - larger than later lesions
 - Rounder
 - Redder
 - more scaly
- After several days
 - smaller plaques appear
 - On trunk mainly
 - also on neck and extremities
- plaques
 - are oval
 - salmon pink
 - delicate scaling
 - adherent peripherally
 - collarette scales**
 - configuration
 - Christmas tree
 - axes run down and out from the spine
 - along the lines of the ribs

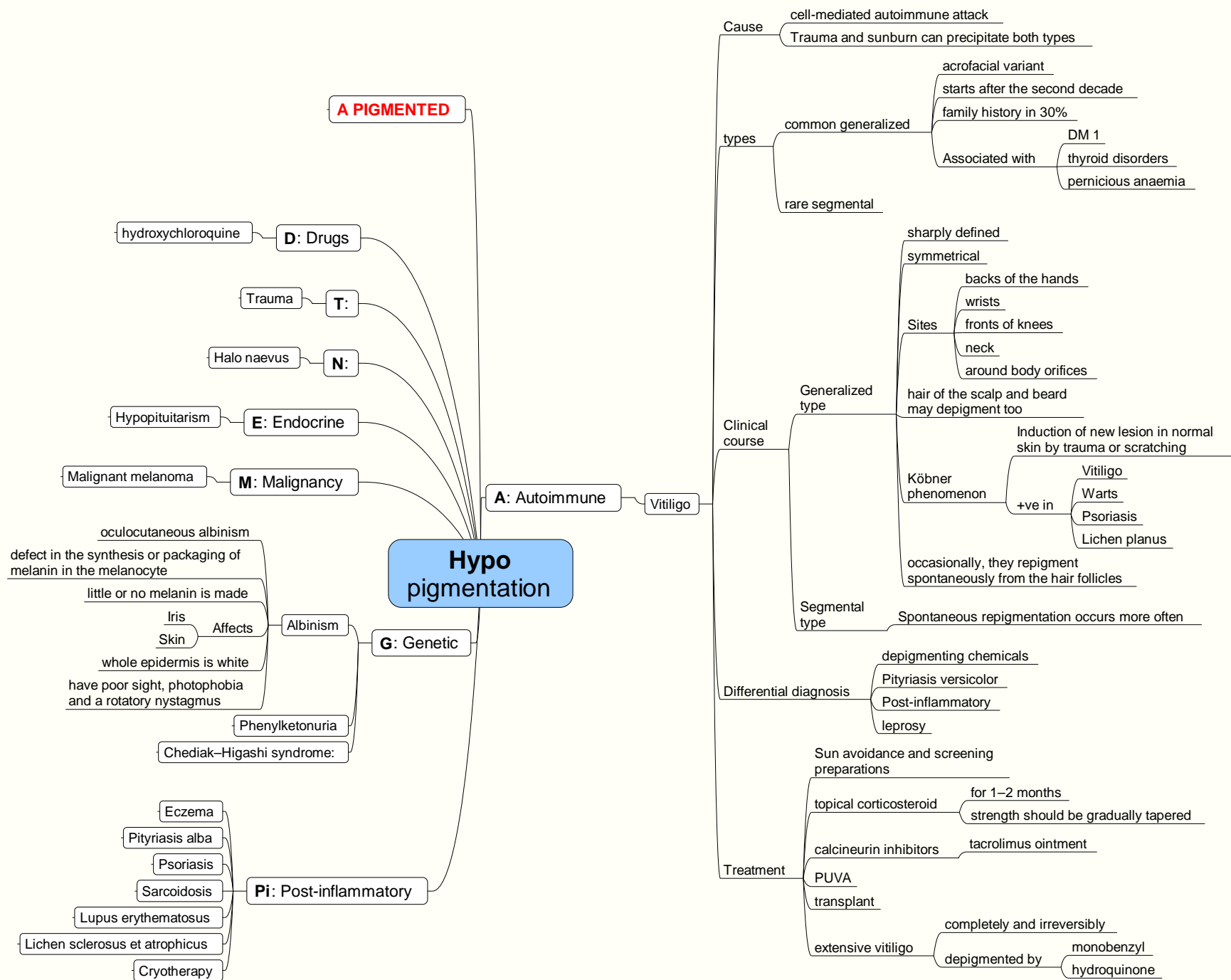
Treatment

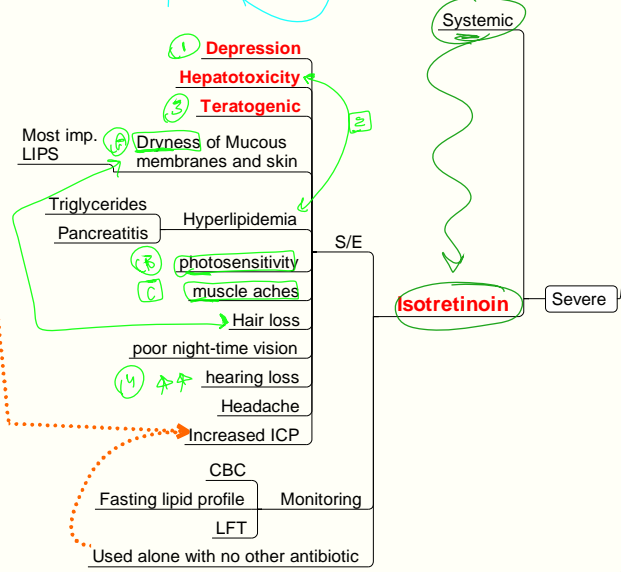
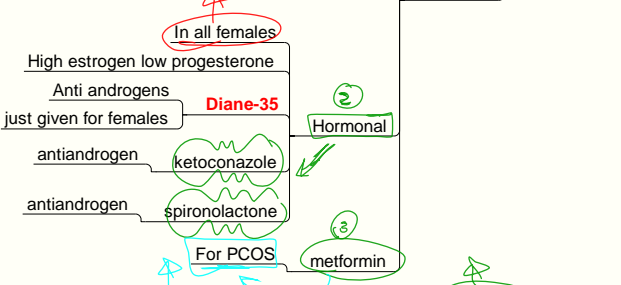
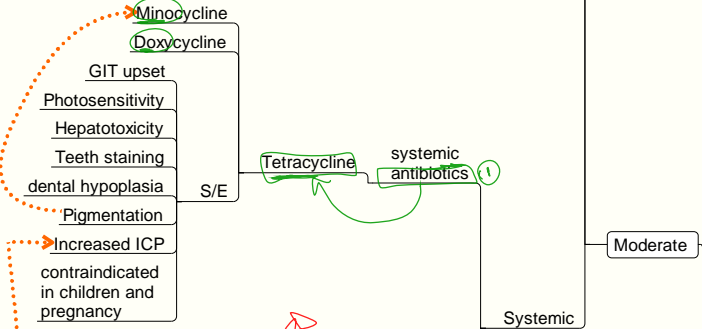
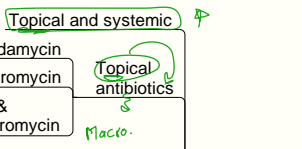
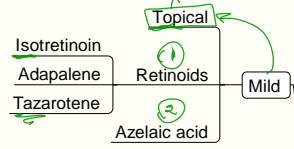
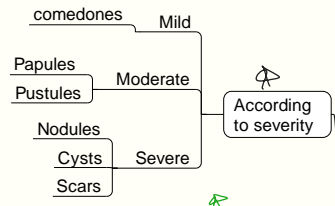
- No Cure
- For itching
 - topical steroid
 - calamine lotion
 - Sunlight
 - UVB
- ointment reduces scaling

Differential diagnosis

- tinea corporis
- pityriasis versicolor
- guttate psoriasis
- secondary syphilis
- gold
- captopril
- drug eruption

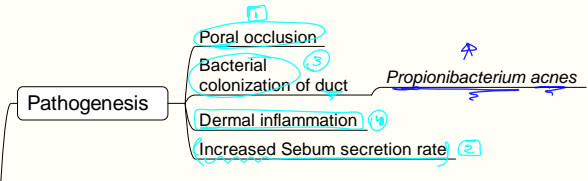
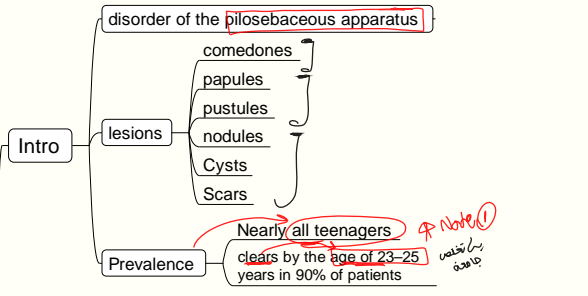




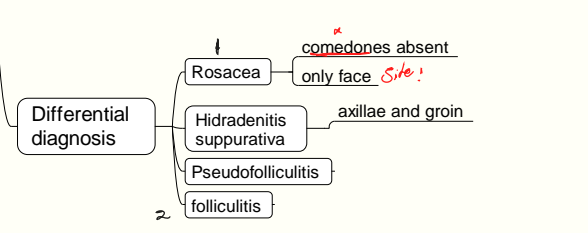
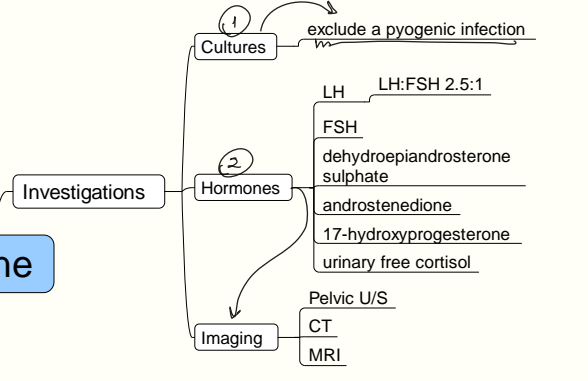


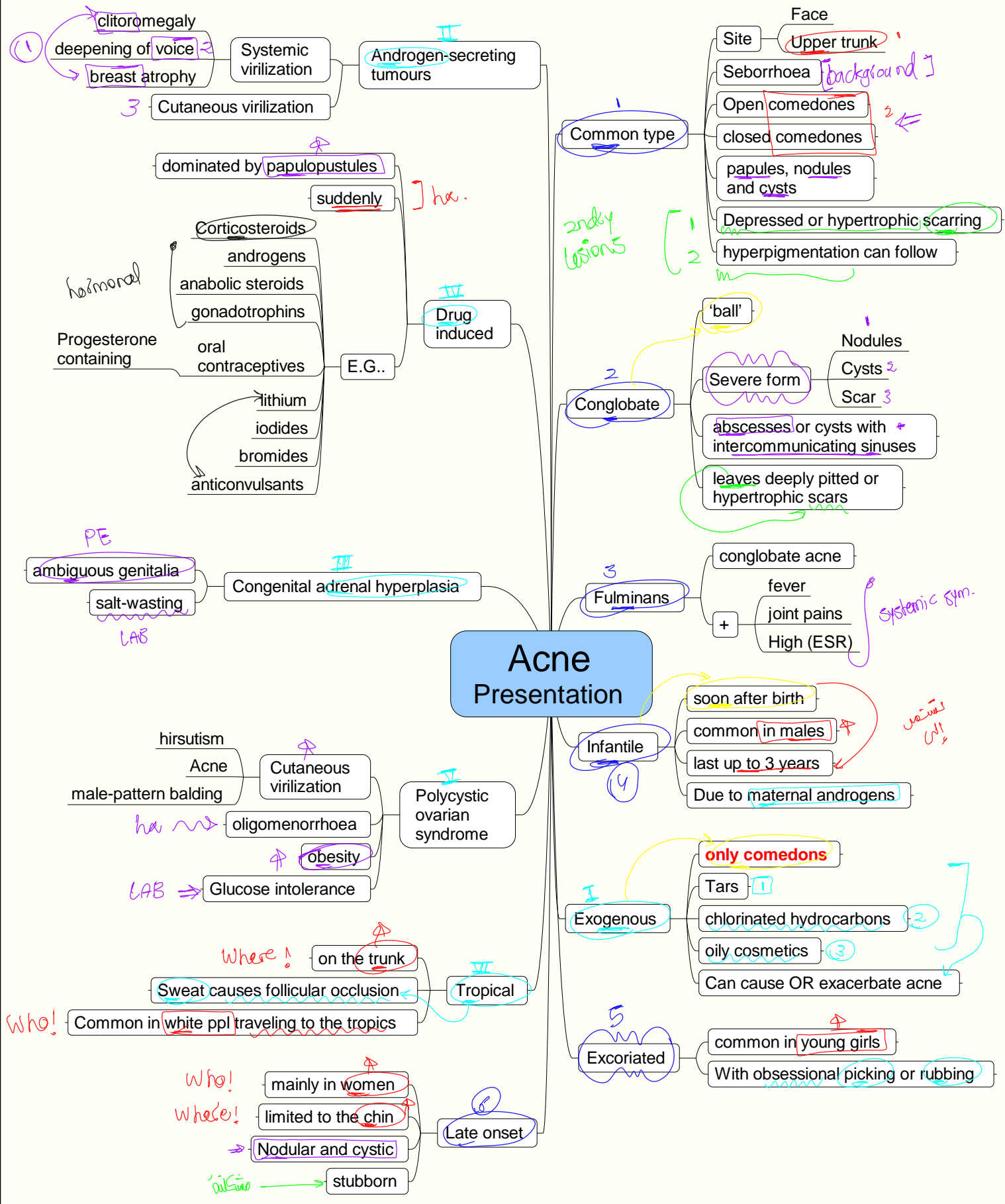
Cosmetic camouflage

Acne

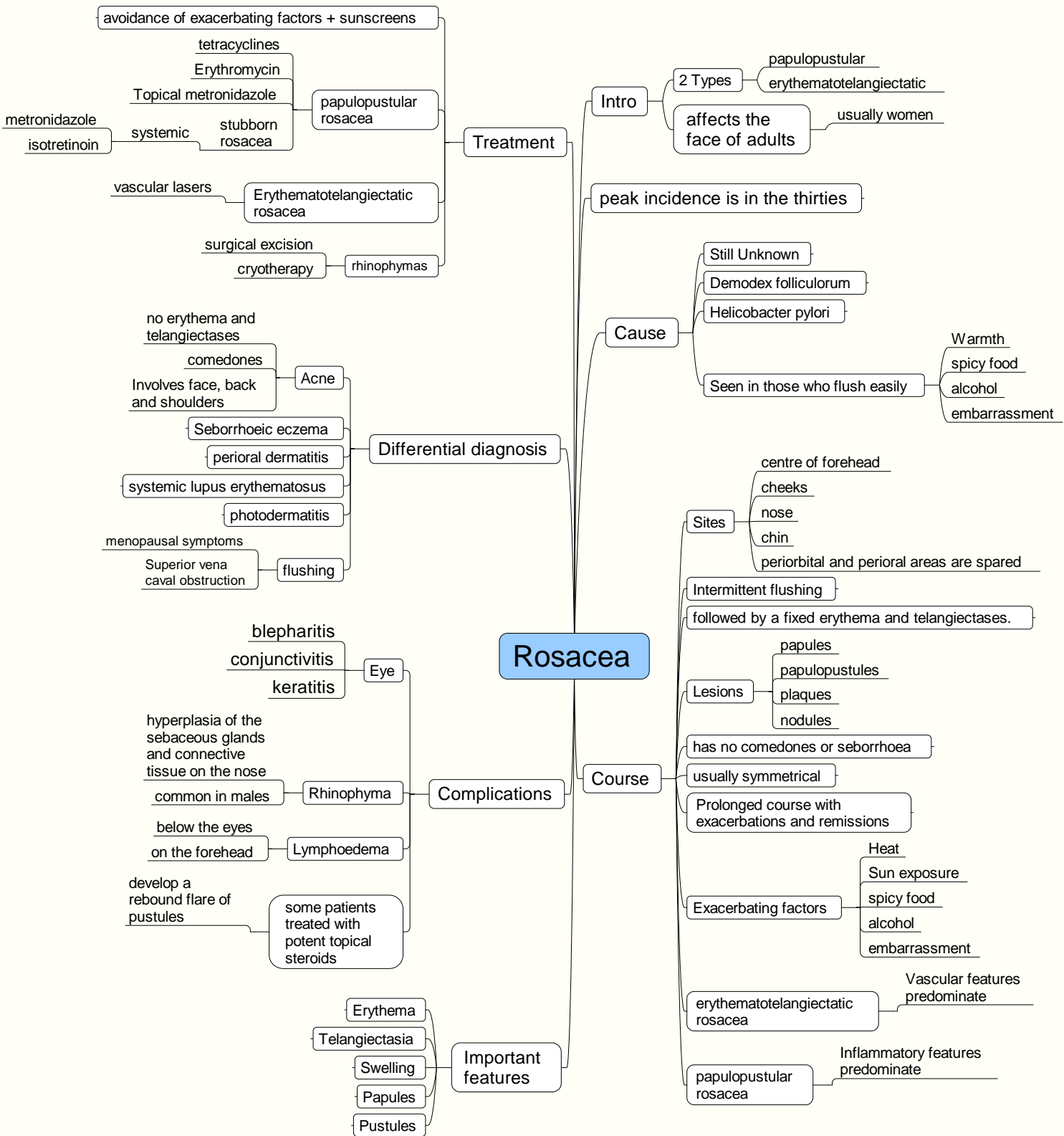


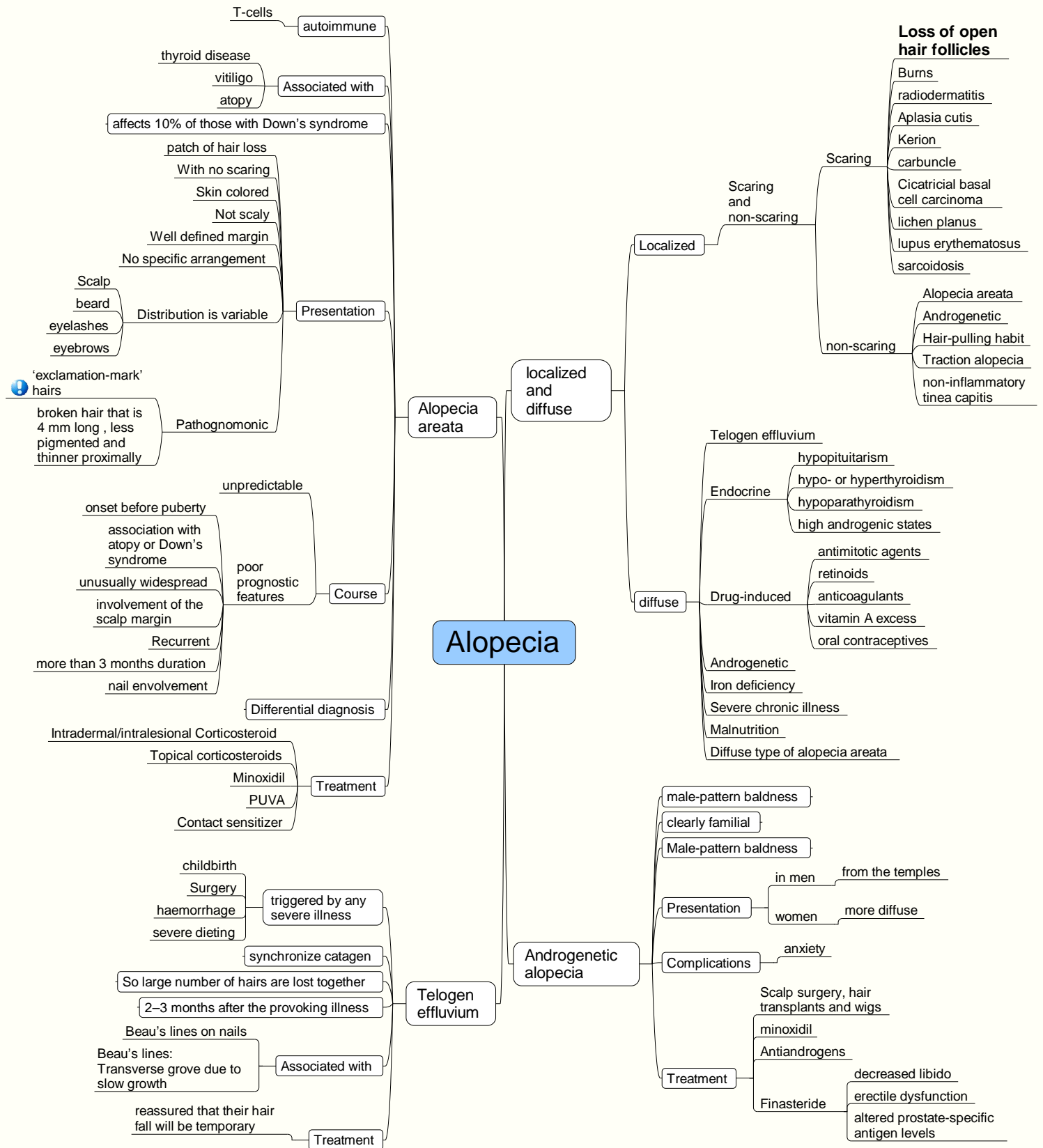
Presentation





Rosacea





Hirsutism

Treatment

- decrease weight and exercise
- underlying disorder must be treated
- waxing or shaving
- Plucking should probably be avoided
- Laser
- Oral antiandrogens
- electrolysis

Causes

Adrenal

- Cushing syndrome
- androgen producing tumors
- congenital adrenal hyperplasia

Ovarian

- androgen producing tumors
- Poly cystic ovarian syndrome
 - serum testosterone
 - LH:FSH 2.5:1
 - sex hormone-binding globulin
 - dehydroepiandrosterone sulphate (DHEA-S)
 - androstenedione
 - Pelvic U/S
 - lipid profile
 - fasting glucose

Drugs

Racial / Familial

idiopathic

Presentation

Excess hair

- on beard
- chest
- shoulder-tips
- around the nipples

male pattern of pubic hair

Investigations

- done if
 - occurs in childhood;
 - features of virilization
 - sudden or recent onset
 - menstrual irregularity or cessation
- serum testosterone
- LH:FSH 2.5:1
- sex hormone-binding globulin
- dehydroepiandrosterone sulphate
- androstenedione
- 17-alpha hydroxyprogesterone
- prolactin
- Pelvic U/S
- Transvaginal ovarian ultrasound
- lipid profile
- fasting glucose

