Rosacea

Rosacea: Definition

- Diagnosis requires one or more of the following:
  - flushing (transient erythema)
  - non-transient erythema
  - papules and pustules
  - telangiectasia

Rosacea: Defintion

- National Rosacea Society
  - most important finding is persistent erythema of the central portion of the face lasting for at least 3 months
  - secondary features:
    - burning or stinging
    - edema
    - ocular manifestations
    - phymatous changes

Rosacea: Definition

- Must rule out certain diseases:
  - polycythemia vera
  - CTD (LE, DM, MCTD)
  - carcinoid
  - mastocytosis
  - previous long term use of topical steroids on the face
  - allergic contact dermatitis

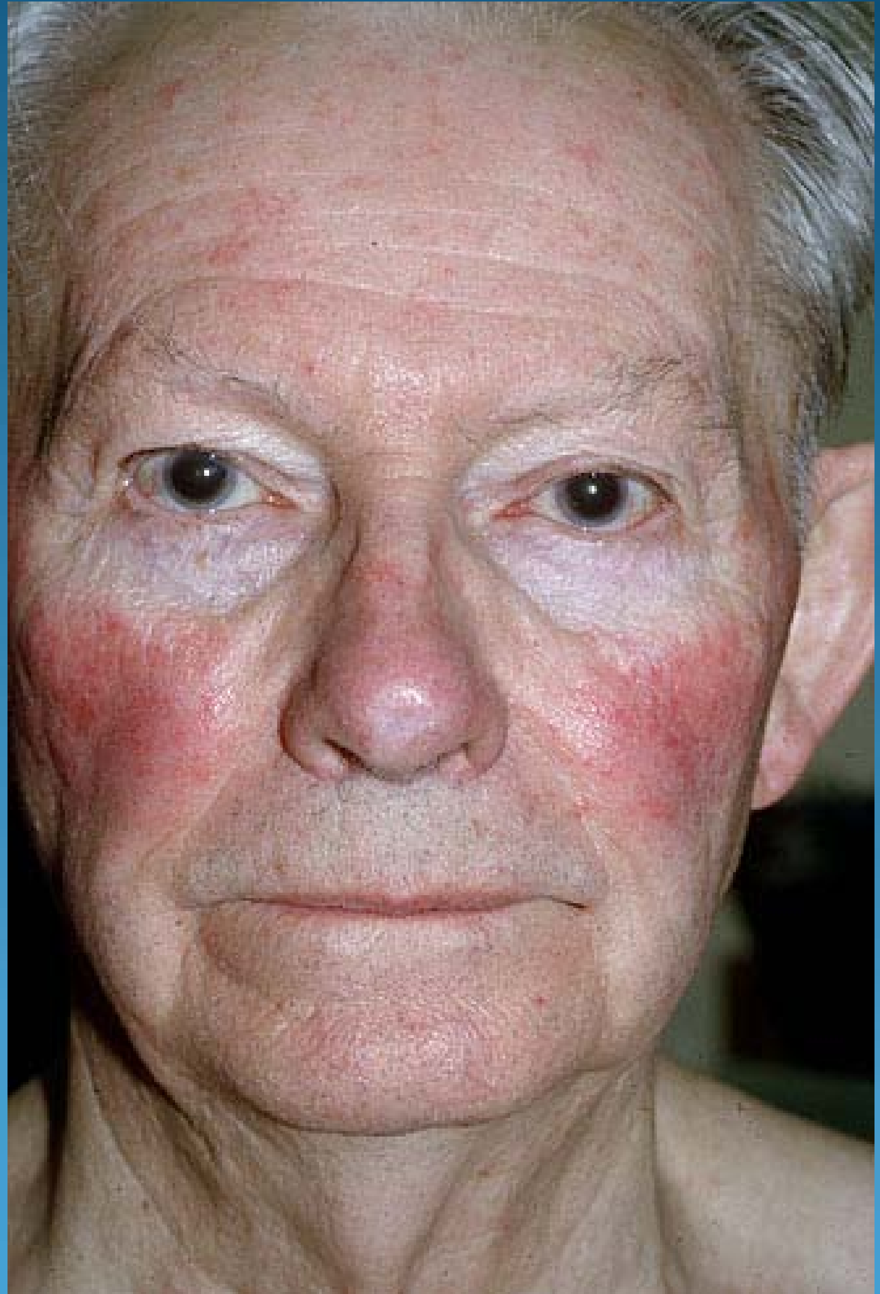
Subtypes

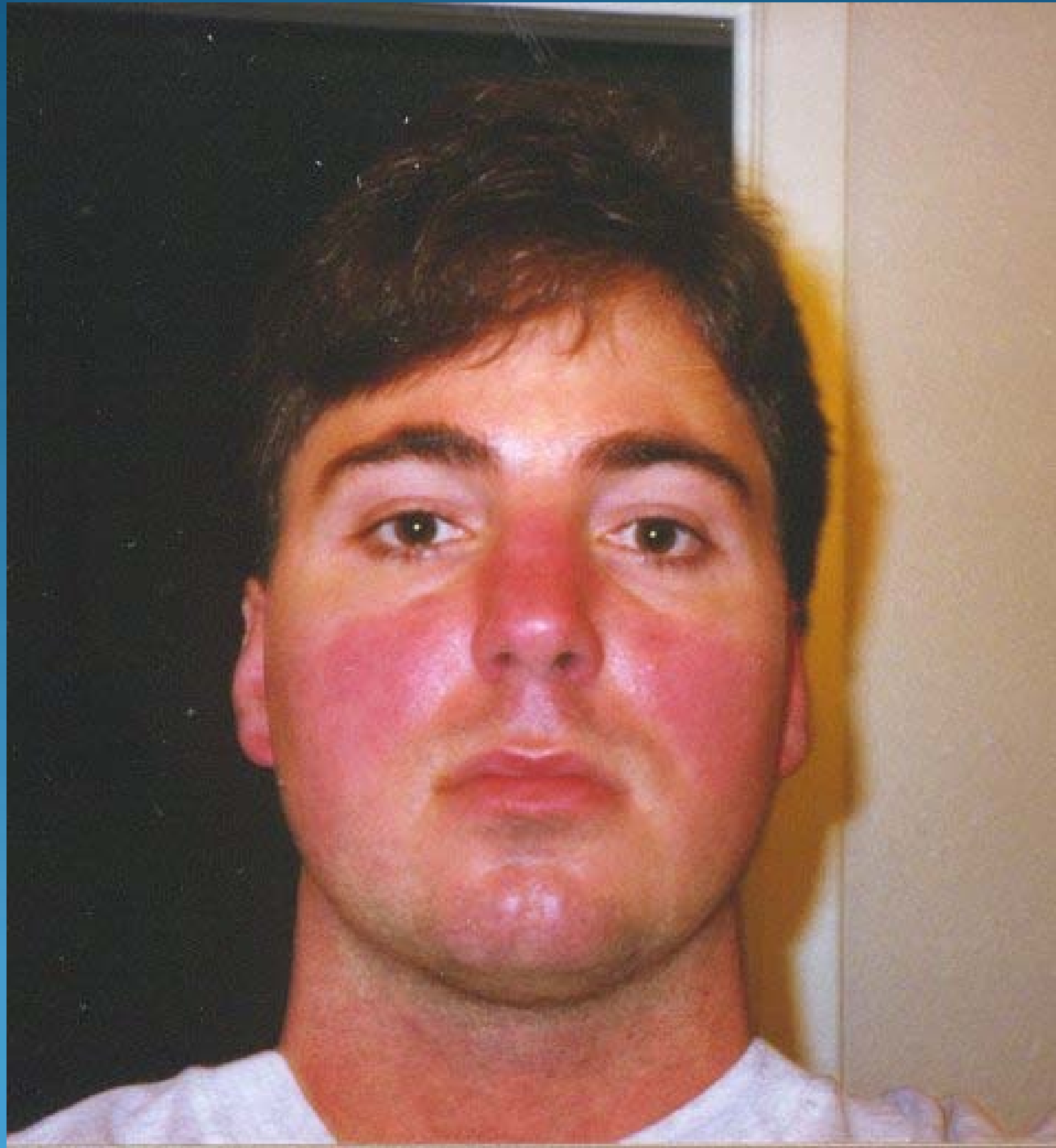
- 4 classic subtypes
  - erythematotelangiectatic
  - papulopustular
  - phymatous
  - ocular
- progression from one subtype to another is **not** the rule

Erythematotelangiectatic Type

- Flushing lasting longer than 10 minutes
  - physiologic flushing lasts secs.-mins.
- Redness and telangiectasia concentrated on central portion of face with classic sparing of periocular skin
- Stimuli include: emotional stress, hot drinks, EtoH, spicy foods, exercise, hot or cold temps.
- Burning or stinging usually accompanies the flush
- patients are *very* sensitive to topical products

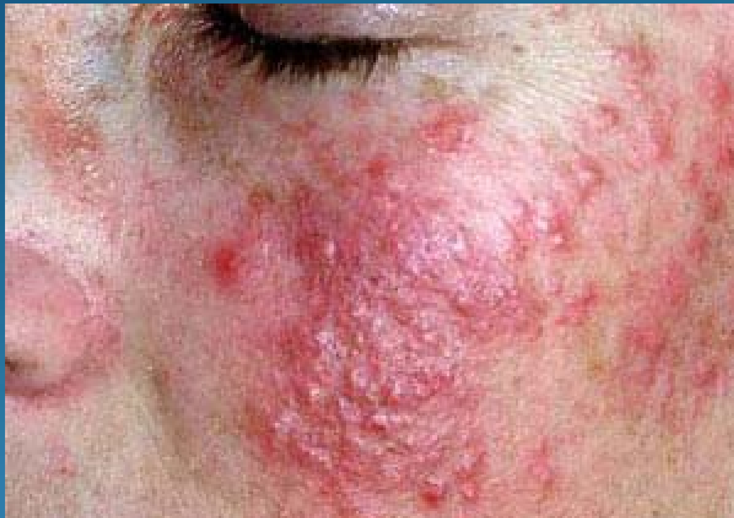
Erythematotelangiectatic Subtype





Papulopustular Type

- red central face
- intermittent inflammation with papules and pustules
- history of flushing but milder than ETR
- less irritable skin than ETR
- subtle telangiectasias
- repeated episodes may lead to solid facial edema



Papulopustular Subtype

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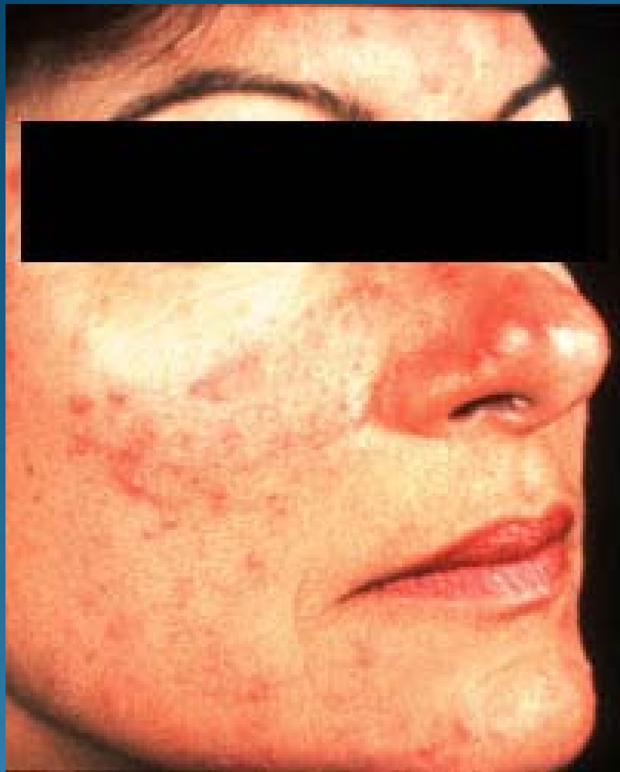
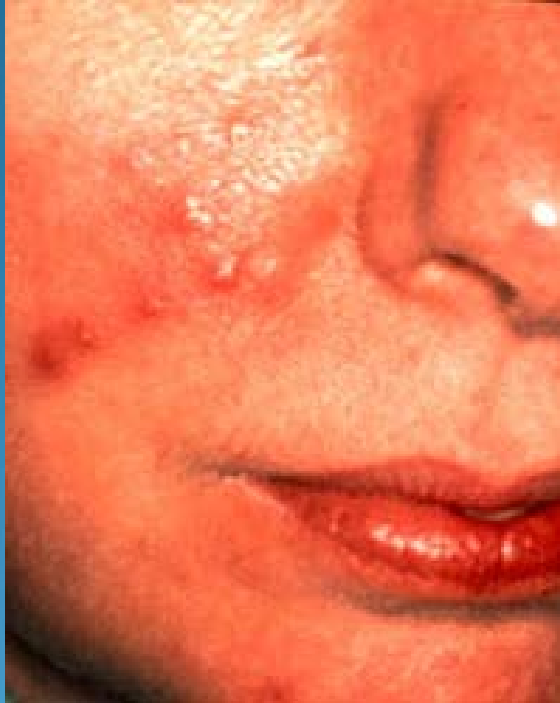
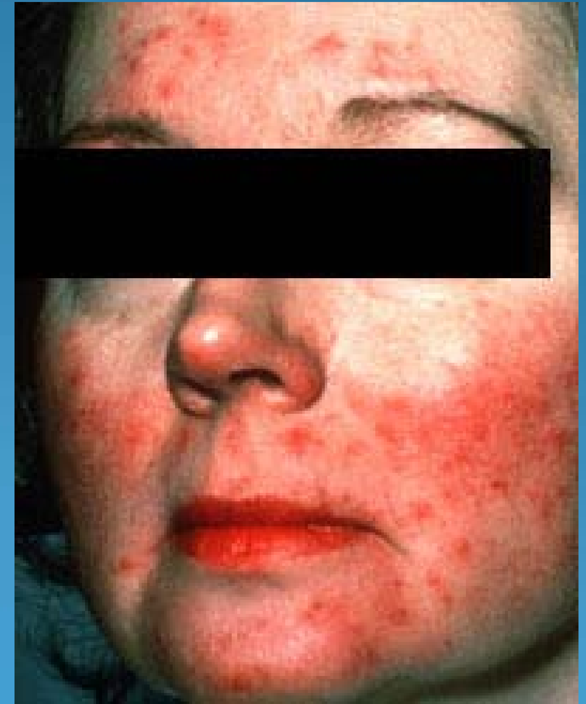


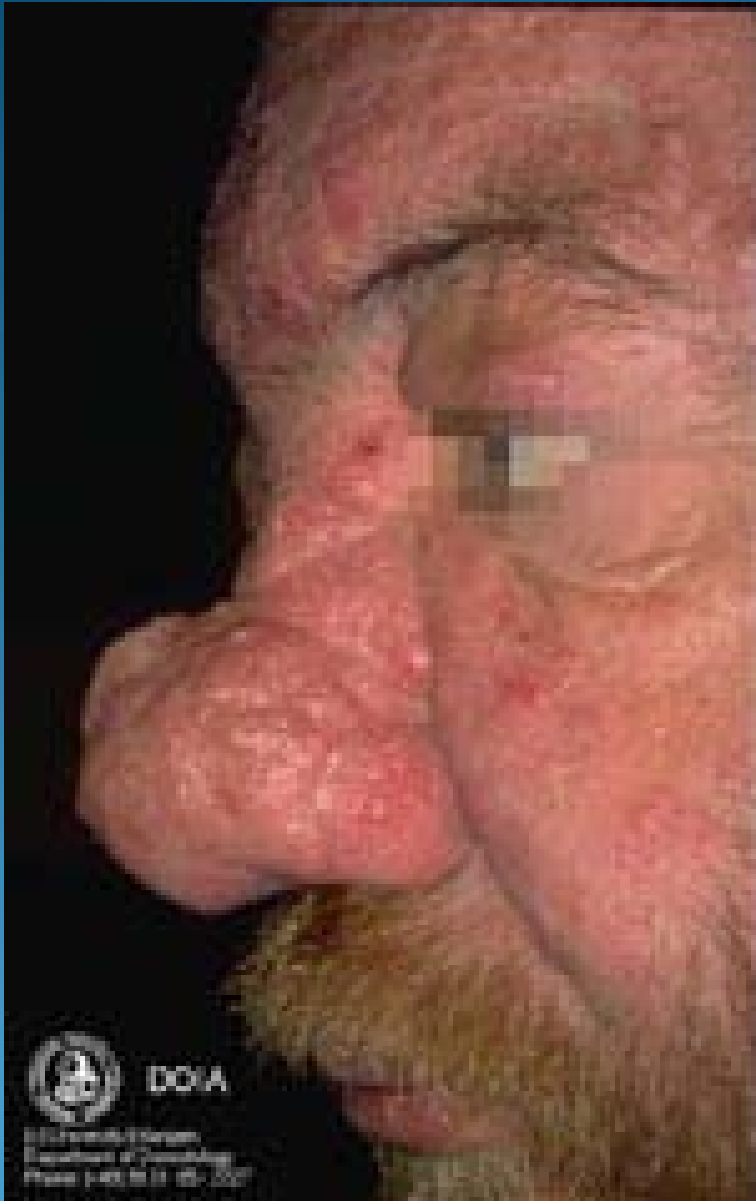




Papulopustular Rosacea

Phymatous Rosacea

- Marked skin thickening and irregular surface abnormalities
  - nose, chin, forehead, ears, eyelids
- 4 histologic variants of rhinophyma
  - glandular, fibrous, fibroangiomatous, actinic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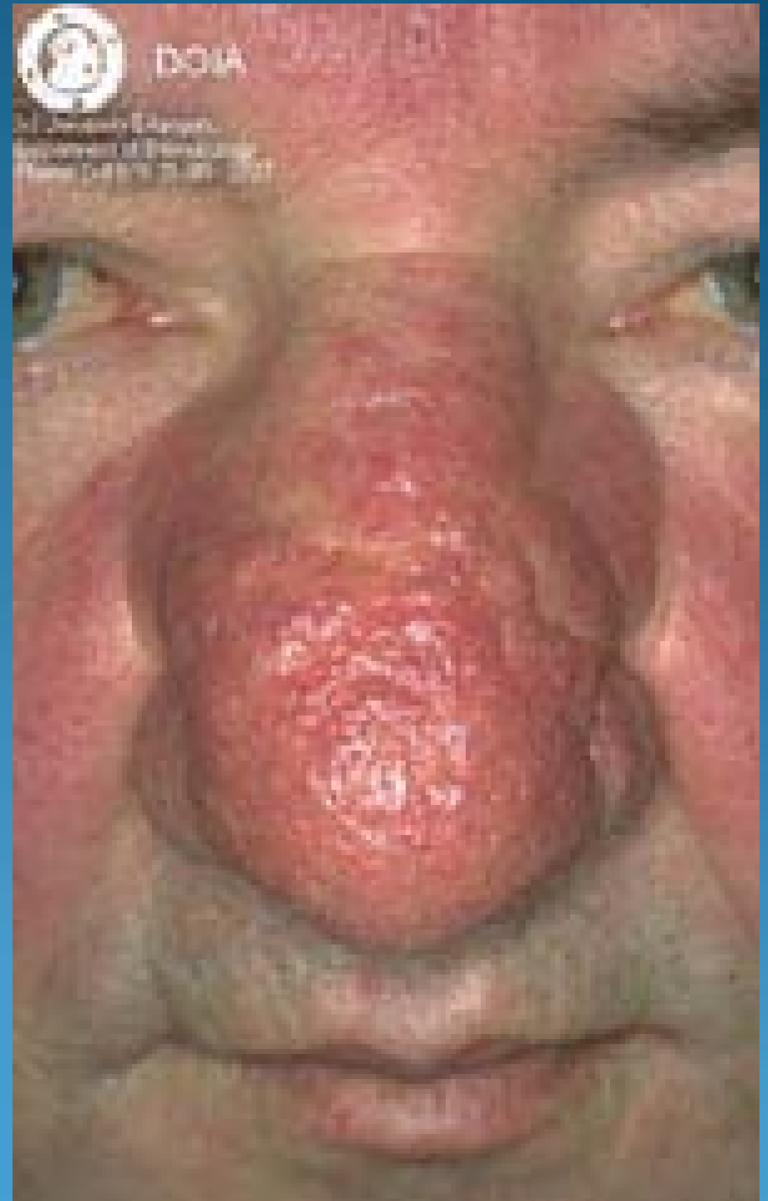
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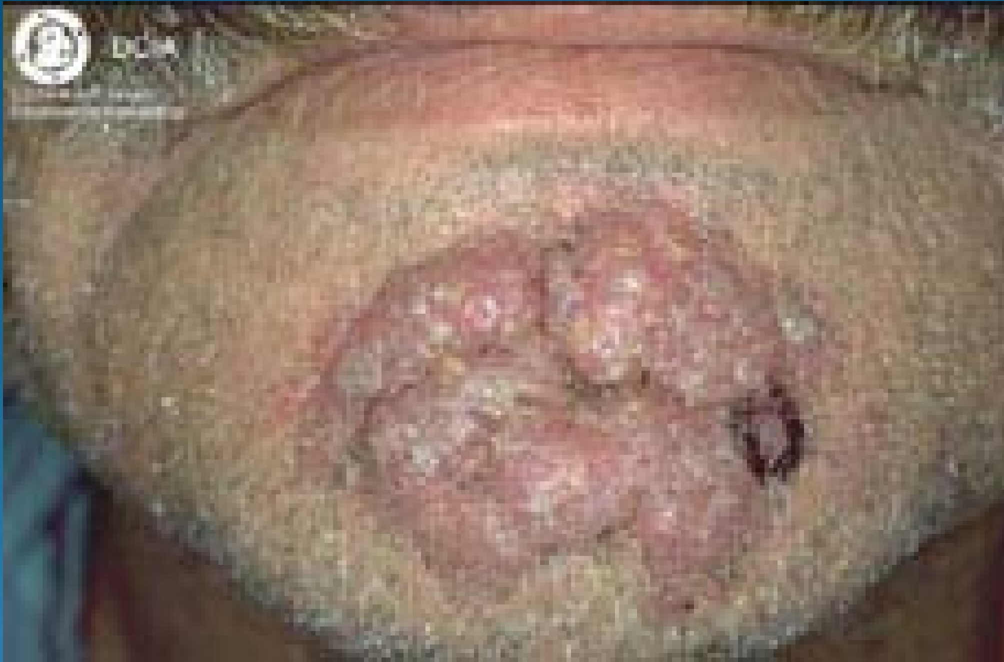
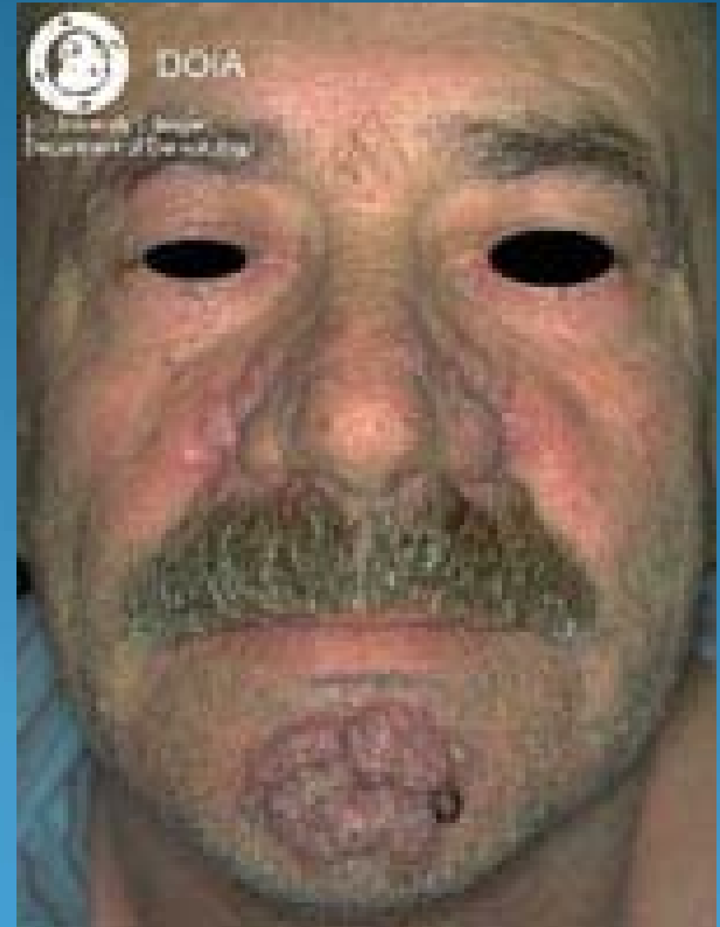
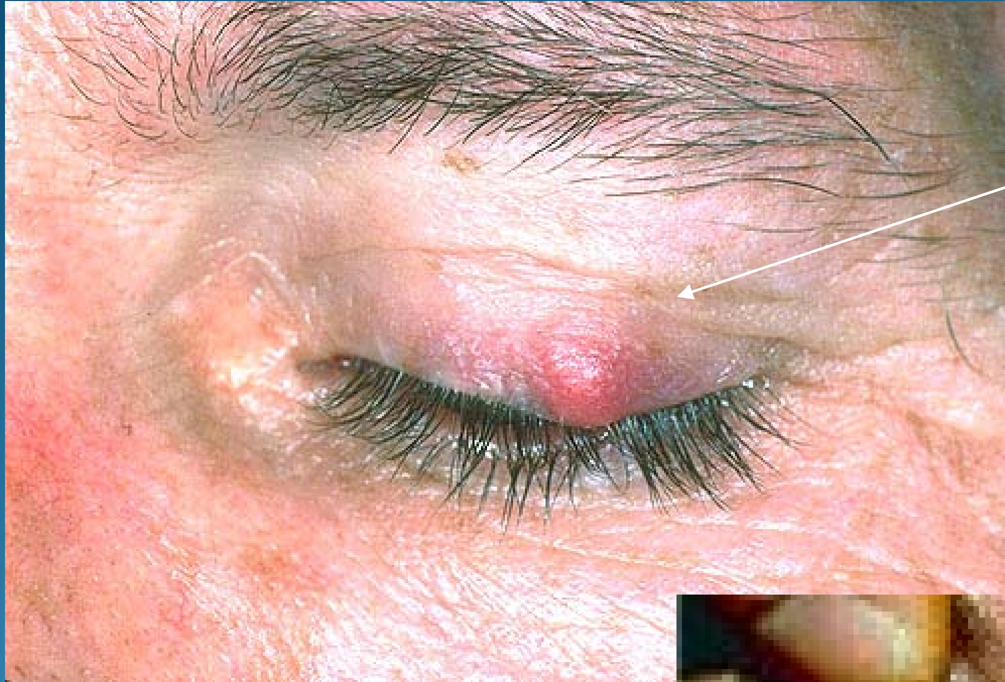


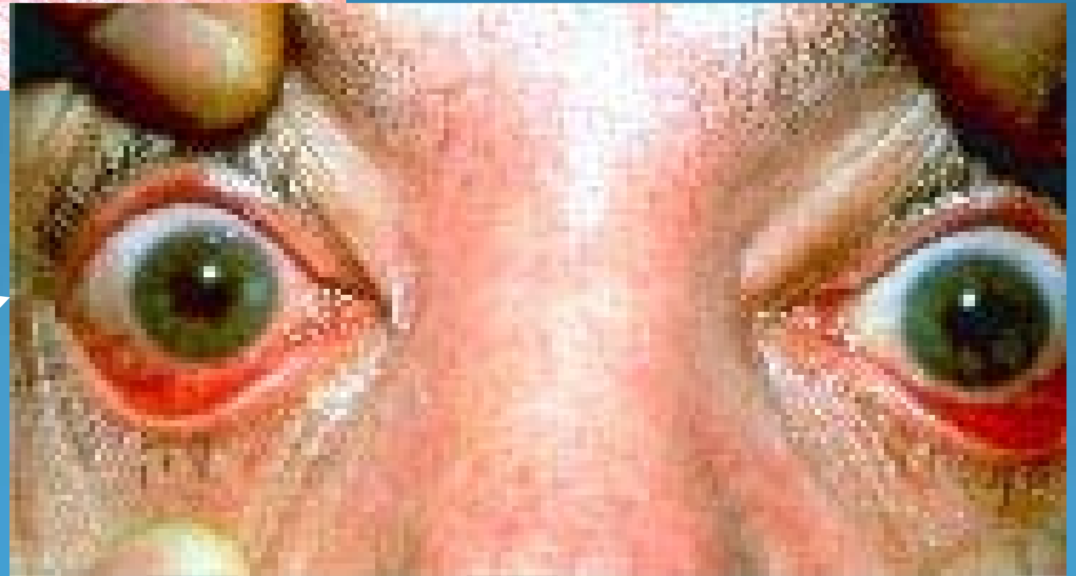


Gnathophyma

Ocular Rosacea

- blepharitis and conjunctivitis most common manifestations
- inflammation of the lids and recurrent chalazion
- symptoms: burning or stinging, itching, light sensitivity, foreign body sensation
- usually seen in combo with or following skin involvement


Chalazion

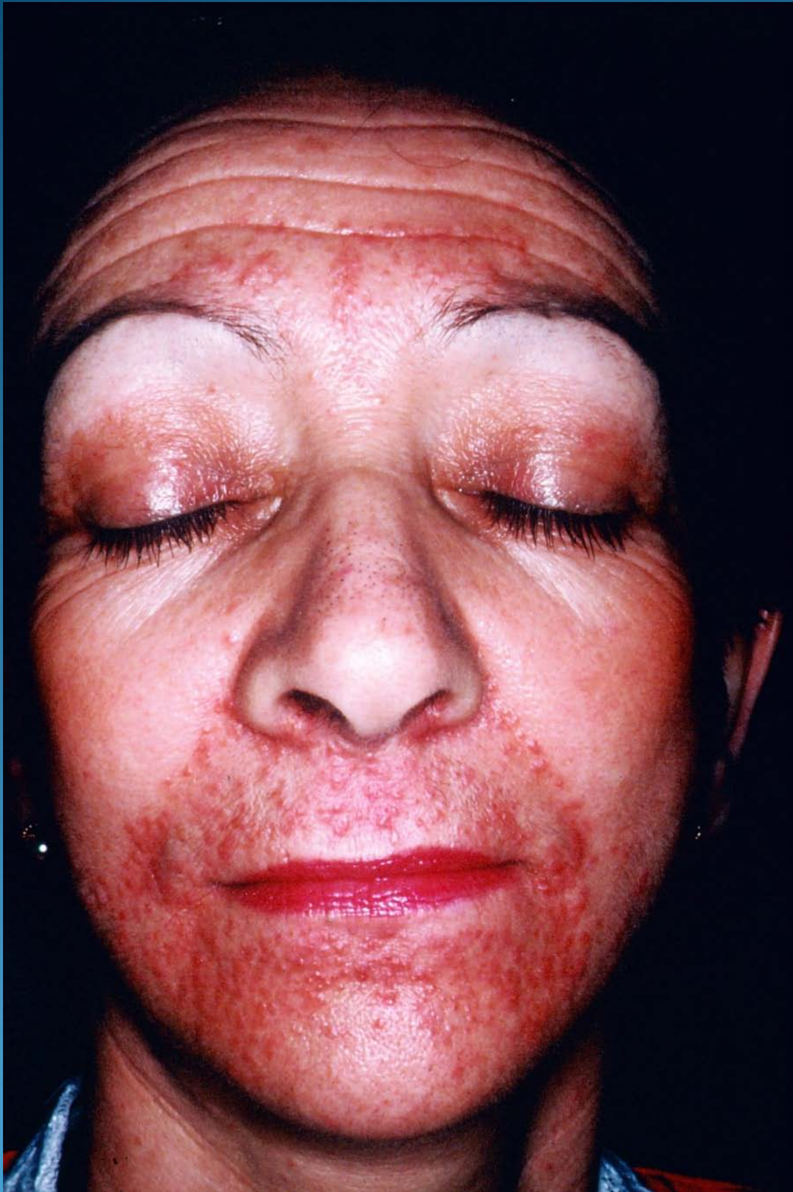

Conjunctivitis

Other Clinical Considerations

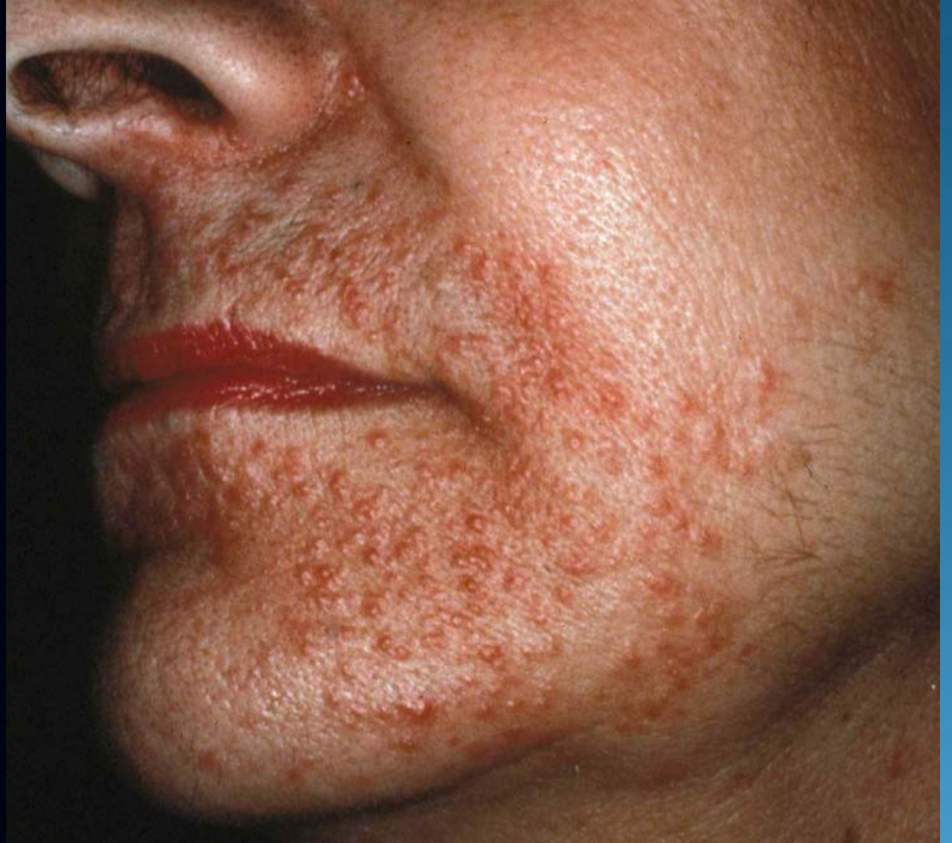
- Glandular Rosacea
  - most common in men with thick, sebaceous skin
  - edematous papules and pustules/nodulocystic lesions clustered on cheeks
  - women usually with chin involvement
  - usually h/o adolescent acne and scarring
  - usually no product sensitivity, burning, stinging
  - h/o flushing less frequent

Other Clinical Considerations

- Granulomatous Rosacea
  - “granulomatous facial dermatitis”
  - periorificial yellow, brown, or red monomorphic papules or nodules that may lead to scarring
  - no persistent facial erythema or flushing
  - disease usually not limited to facial convexities and periocular lesions are usually present



Granulomatous Rosacea



Pathophysiology

- Mostly unknown
  - vasculature abnormalities
  - climactic exposures
  - matrix degeneration
  - chemicals and ingested agents
  - pilosebaceous unit abnormalities
  - microbial organisms

Vasculature

- abnormalities in cutaneous vascular homeostasis
- baseline blood flow to the face is increased in ETR and PPR patients
- larger, more numerous facial vessels
- abnormal physiologic response to thermal mechanisms

Climatic Exposures

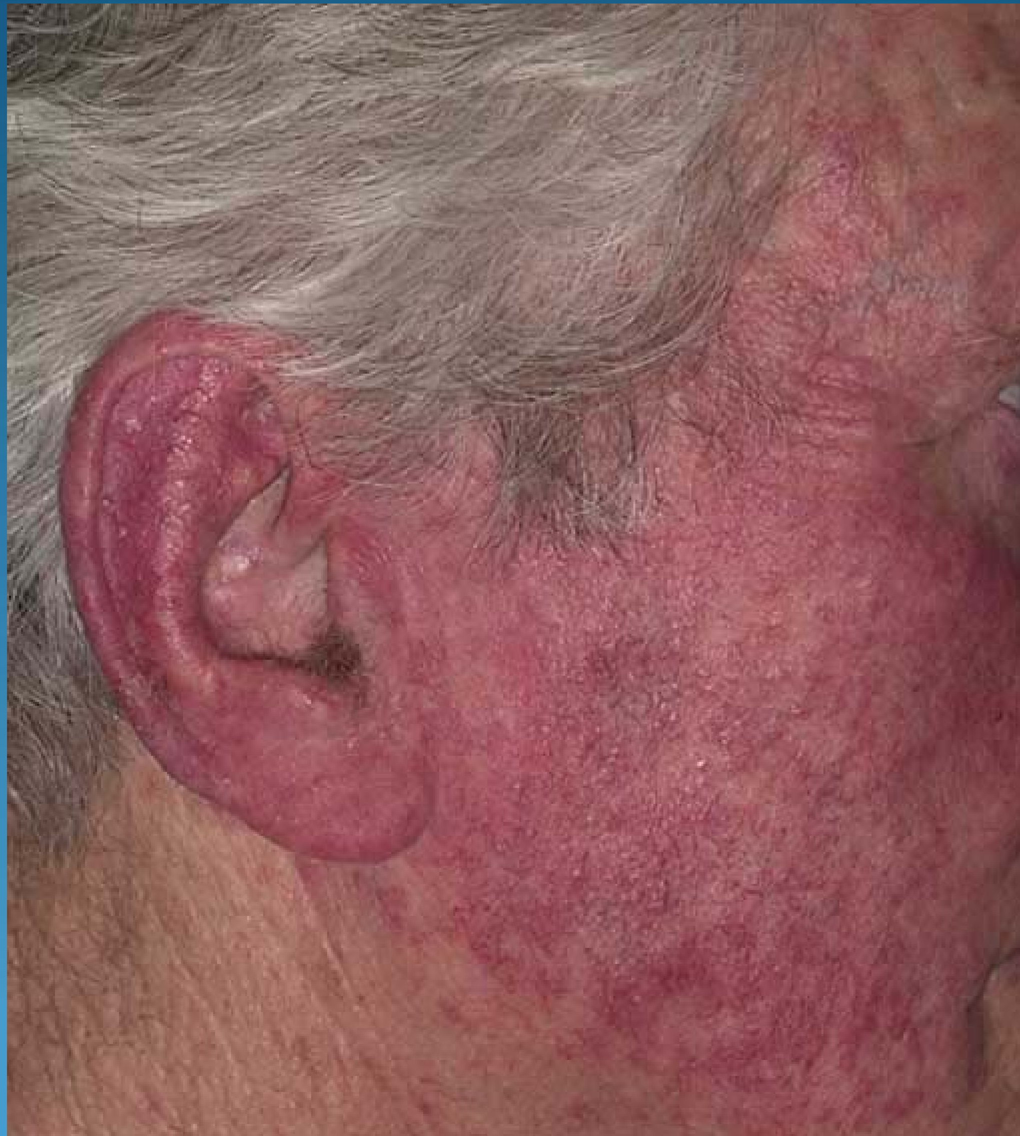
- caustic effect of climatic exposures damage cutaneous blood vessels and dermal CT
- convex surfaces of the face (thus more exposed to sunlight) are involved in rosacea
- fair skin, light eyes
- disease flares in early spring
- disease usually spares younger patients

Dermal Matrix Degeneration

- telangiectasia, persistent erythema, flushing and edema caused by poor CT support for cutaneous vessels
  - pooling of serum
  - inflammatory mediators
  - metabolic waste

Chemicals and Ingested Agents

- no primary role of causation for diet
- spicy foods, Etoh, hot beverages can trigger
- amiodarone can trigger rosacea
- topical steroids, nicotinic acid, high doses of vitamin B6 and B12 can trigger rosacea-like eruptions



Steroid induced rosacea-like eruption

Pilosebaceous Unit Abnormalities

- 20-50% of biopsy specimens from ETR/PPR patients showed abnormalities of the follicular unit
- glandular type of rhinophyma is a follicularly based process
- therapies that target follicularly based organisms (P. acnes, Demodex) are useful

Microbial Organisms

- Demodex
  - prefers skin regions most often affected by rosacea
  - increased rosacea and Demodex with age
  - in one study, 22% of rosacea patients had anti-Demodex antibodies
  - number of mites elevated in patients with PPR

Demodex

Microbial Organisms

- H. pylori
  - historical association between rosacea and GI disease
  - H. pylori very common in the general population
  - no evidence for association for H.pylori infection and development of rosacea

Therapy

- In General
  - guide therapy based on rosacea subtype
  - identify and avoid triggers
  - daily use of broad-spectrum sunscreen

Sunscreen

- Physical blockers (TiO_2, ZnO) best tolerated
- silicones should be included in the sunscreen to minimize burn/sting
  - Rosac cream
    - sodium sulfacetamide 10%/sulfur 5% plus Parsol 1789 and other sunscreens in a dimethicone vehicle

Cosmetics

- Avoid astringents, toners, menthol, and camphor-containing products
- use soap free cleansers
- apply non-waterproof make-up only and use fingers, not sponges or other applicators
- apply gentle emollient (ie. Cetaphil cream) prior to application of other products

Metronidazole

- 0.75% Metrocream, Metrogel, Metrolotion
- 1% metronidazole (Noritate)
- reduces erythema and inflammatory lesions
- apply once daily
- no sig. difference between 0.75% and 1%
- Preg category B

Sodium Sulfacetamide and Sulfur 10% and 5%

- Sulfacet-R (tinted and tint-free lotions)
- Plexion wash and TS
- Rosanil cleanser
- Rosula lotion
- Clenia wash and lotion
- Rosac cream
- AvarGreen gel

Sodium Sulfacetamide and Sulfur

- reduces erythema and inflammatory lesions
- proven to be more effective than topical metronidazole
- contraindicated in sulfa allergic patients and kidney disease
- 1 in 5 will experience pruritus, irritation, contact derm, or xerosis
- Preg. Category C

Azelaic Acid

- Finacea-15% azelaic acid gel
- reduces erythema and inflammatory lesions
- 38% experience burning, stinging, itching although usually transient
- more efficacious than metronidazole
- Preg. Category B

Benzoyl Peroxide

- Best used in PPR and phymatous rosacea
- reduces inflammatory lesions
- will cause stinging and burning in ETR
- Preg. Category C

Tretinoin

- Promotes connective tissue remodeling and reduces dermal inflammation
- provide anti-angiogenic effect and are proven to reduce erythema over a 2-6 month course
- irritation not usually significant enough to warrant discontinuation
- Preg. Category C

Other Topicals

- Erythromycin/Clindamycin
  - will reduce papules and pustules
- Tacrolimus (Protopic)
  - effective in treatment of steroid-induced rosacea-like eruptions

Tetracycline

- Mainstay for >40 years although not FDA approved for rosacea
- doses of 250mg daily effective in reducing papules and pustules within 2-4 weeks
- Periostat (Doxy) at 20mg BID is also effective

Macrolides

- Erythromycin
  - use in pregnancy or lactation
- Clarithromycin/Azithromycin
  - Clarithromycin 250mg BID for 4 weeks, then 250mg QD for 4 weeks more effective than Doxy in one study

Accutane

- Reduces inflammatory papules, pustules, erythema, and telangiectasia
- also useful for early phymatous changes and solid facial edema
- proven to reduce overall facial blood flow
- low doses of 10 mg daily for 4 months usually adequate

Miscellaneous

- Combination OCP's
- spironolactone
- B-blockers, clonidine, SSRI's may help reduce facial flushing
- Vascular lasers 585 or 595 nm
- IPL

Subtype-Directed Approach

- ETR
  - barrier repair and avoidance of irritants
  - am-Metro or Sulfacetamide product
  - pm-barrier followed by 0.025% tretinoin

Papulopustular subtype

- Combination of topical and oral antimicrobials
- am: metro, sulfacetamide,azelaic acid, or BP followed by sunscreen
- pm: protective emollient followed by tretinoin
- add po antibiotics as needed

Glandular Rosacea

- Topical antimicrobials (ie. BP)
- oral tetracycline
- pm: topical tretinoin
- severe disease may require accutane
- spironolactone may be added in women with predominantly lower face involvement

Phymatous Subtype

- Accutane monotherapy
- surgical approaches
  - electrocautery
  - dermabrasion
  - laser ablation