SCABIES

Background[1]

1. Ectoparasitic infestation caused by arthropod *sarcoptes scabiei var hominis*
2. Intensely pruritic skin infection caused by female mites laying eggs in skin burrow

Pathophysiology

1. Pathology of Disease[1]
    - Obligate parasite that burrows into epidermis within 30 minutes of skin contact.
    - Type 1 and type 4 hypersensitivity [3]
    - Causes superficial and deep and perivasculer inflammatory reactions [3]
    - Classification
        - Classic[1]
        - Nodular[1]
        - Vesicular[1]
        - Crusted (Norwegian) [3]
2. Transmission[4]
    - Direct skin to skin contact
    - Sexual transmission
3. Incidence, Prevalence: [2]
    - 300 million cases per year worldwide
    - Increased incidence in humid, tropical climates
4. Risk Factors
    - Higher incidence in homosexuals, oral contraceptive users, alcohol abusers and immunocompromised individuals[1]
    - Overcrowding[1]
    - Limited access to water[1]
    - Immobilization[1]
    - Immunocompromise[2]
    - Alcohol Abusers[1]
5. Morbidity / Mortality
    - Not life threatening, but significant morbidity[2]
    - Discomfort, loss of sleep caused by pruritus[1]
    - Secondary skin infections, leading to impetigo, furuncles, cellulitis, glomerulonephritis, rheumatic heart disease [1]
    - Common bacteria: staphylococcus aureus and group A streptococcus[2]

History[2]

1. Present with pruritic skin lesions more symptomatic at night
    - Physical Examination:
        - Small erythematous paplovesicular rash, symmetrical with predilection for:
            - anterior axillary folds,
            - nipple area in females,
            - periumbilical skin,

        - elbows,
        - volar wrist surfaces,
        - interdigital web spaces,
        - belt line,
        - thighs,
        - buttocks,
        - penis,
        - scrotum
        - ankles
    - Lesions typically spare head, face, and neck in adults, but these areas may be affected in infants and immunocompromised individuals.
    - Pathognomonic lesions: skin burrows and scabietic nodules.

Diagnostics [2]

1. Clinical History and Physical Exam
2. Gold Standard – Direct Visualization of mite
3. Diagnostic Testing
    - 10% KOH
    - Direct burrow test
    - Biopsy
    - PCR

Differential Diagnosis [1]

1. Key Differential Diagnoses:
    - Impetigo,
    - folliculitis/furunculosis,
    - tinea corporus,
    - syphilis,
    - insect bites,
    - animal scabies,
    - papular urticaria,
    - allergic reaction/drug rash,
    - psoriasis,
    - eczema,
    - seborrheic
    - dermatitis,
    - systemic lupis,
    - erythematosus,
    - bullous pemphigoid,
    - lymphomatoid papulosis,
    - dermatitis herpetiformis,
    - langerhans cell histiocytosis,
    - Sezary syndrome,
    - infantile acropustulosis

Therapeutics

1. Acute Treatment
    - Topical
        - Permethrin, precipitated sulfur, lindane, benzyl benzoate, monosulfiram, crotamiton and malathion[3] (PEPID – please link all meds to the PEPID drug database where available)
        - Scabicides (need to first remove crusts/scaling)1
        - Permethrin (TOC) - single 5% whole body application; bathe 8-14 hrs after initial application[3]
            - Can be used in infants[1]
            - Use mittens to keep infant from rubbing into eyes[1]
            - Wash off in 8 hrs[5,4]
            - Pregnancy category B[5]
        - Precipitated sulfur in 6% petrolatum- single whole body application[3]
            - Pts <2yo, pregnant (TOC)[1]
        - Lindane 1%- single whole body application; bathe 8-14 hrs after initial application[3]
            - Neurotoxic complications resulting in convulsions[2,4]
            - Contraindicated in infants and children[1]
            - Contraindicated in crusted type
            - Pregnancy category C[3]
        - Benzyl benzoate 5% - single whole body application[3]
            - Not safe in pregnancy, lactating women, children less than 2 y/o[1]
        - Malathion [3]
            - Little information pertaining to use in scabies
            - More research needed to recommend use
    - Oral
        - Ivermectin- 200 microgram/kg/dose for 1 po dose[3]
        - Not in pregnant or lactating women[4]
        - TOC for nodular type
        - 2 oral doses equivalent to 1 application of permethrin[3]
    - Combination
        - Crusted type requires combination treatment
            - Permethrin 5% topical application x7days and
            - Oral Ivermectin 200 microgram/kg/dose po once daily on day 1, 2, 8, 9, 15[5]
2. Further Management[5]
    - Prior to treatment remove all bedding, dirty clothing and
        - Wash with hot water
        - Dry on high heat cycles
        - Dry clean or seal in plastic bags for 3 days if not washable.
        - Must vacuum house.
    - Nodular scabies - after successful treatment
        - If nodules persist, may treat with intralesional triamcinolone 5-10 mg/ml - 0.1 ml per nodule usually sufficient.

- Symptomatic treatment with oral antihistamines and topical steriods

Patient Education

1. Normal for patients to experience persistence of symptoms for 2-6 wks after successful treatment
2. Pruritus may worsen temporarily after treatment secondary to massive death of mites and release of toxic products.
3. Must treat all close contacts.
4. Patient education handout: http://www.cdc.gov/parasites/scabies/prevent.html

Follow-Up

1. Follow up at 2 weeks post treatment
   - Recurrence usually secondary to reinfection from untreated contacts.
2. Admit to Hospital
   - Severe secondary complications, such as superimposed bacterial infections
     - Cellulitis and pyoderma require appropriate IV antibiotics.
   - Secondary skin infections, leading to impetigo, furuncles, cellulitis, glomerulonephritis, rheumatic heart disease

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