Huidinfecties in beeld

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Dienst kindergeneeskunde

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Overview of the index cases

• Infectious:
  – viral (orf, eczema herpeticum)
  – bacterial (impetigo, perianal streptococcal dermatitis, dacryocystitis, chronic meningococcemia)
  – fungal
    • dermatophytic (tinea corporis)
    • yeast (pityriasis versicolor)

• Parainfectious:
  – SSSS
  – Stevens-Johnson syndrome
Orf

- **etiology**: parapox virus (DNA virus)
- **epidemiology**: direct contact with infected young lambs and goats
- **incubation period**: 3-6 days
- **course**:
  - on fingers, hands or forearms; occasionally on the face
  - solitary lesion or few in number
  - small firm red or reddish-blue lump -> vesicle -> hemorrhagic pustule or blister -> crust -> healing without scarring
- **diagnosis**:
  - clinical features
  - PCR
- **DD**: furuncle, herpetic whitlaw, anthrax, milker’s nodule, pyogenic granuloma, cowpox, tularemia
- **evolution / prognosis**:
  - spontaneous healing without scarring within 6 weeks
  - complications: bacterial superinfection, lymphangitis, lymphadenopathy, EEM, bullous pemphigoid
- **treatment**: symptomatic, antibiotics for secondary bacterial infection
Eczema herpeticum

• viral infection, that generally occurs at sites of skin damage
  (e.g. atopic dermatitis, psoriasis, burns, long term usage of topical steroids, …)
• syn. : Kaposi's varicelliform eruption
• epidemiology:
  – rare
  – all ages, but higher prevalence in childhood
• clinical features:
  – widespread clusters of umbilicated vesicopustules / punched-out ulcers covered by hematic crusts
  – usually located over the head, neck, and trunk
  – lesions are painful
  – often associated with fever, malaise, and regional lymphadenopathy
• etiology:
  – pathogens:
    • reactivation of HSV, predominantly type I.
    • other viruses: Coxsackie A 16, vaccinia, and VZV
  – pathogenesis: believed to be due to humoral and cellular immunity dysfunction
Eczema herpeticum

- **diagnosis:**
  - clinical features
  - Tzanck test
  - PCR

- **treatment:**
  - antiviral (e.g. HSV: Acyclovir)
  - antibiotics (bacterial superinfection)
  - wound care (e.g. Flaminal hydro)
  - pain relief

- **evolution / prognosis:**
  - treated: healing without scarring within 2–6 weeks
  - untreated: potentially fatal
Impetigo

- acute, highly contagious infection of the superficial layers of the epidermis
- onset: all ages
- incidence: 2.8/100 children ≤ 4 y/year
- clinical features:
  - bullous (90% < 2 y of age) and non bullous impetigo
  - lesions that progress from papules to vesicles, pustules, and crusts
- etiology:
  - pathogens:
    - bullous impetigo: S. aureus
    - non bullous impetigo: S. aureus and/or GABHS
- evolution / prognosis:
  - treated: healing without sequelae
  - untreated: poststreptococcal glomerulonephritis or rheumatic fever
- treatment:
  - few lesions: topical therapy
  - numerous lesions: oral antibiotic
  - handwashing and other preventive measures employed in reducing the spread of staphylococci
Perianal streptococcal dermatitis

- perianal group A streptococcal infection
- onset: mainly 6 months – 10 years
- clinical features:
  - a bright red, sharply demarcated perianal or perineal erythema
  - sometimes associated with perirectal fissures, blood-streaked stools, pruritus and pain with defecation
- treatment: antibiotics
Dacryocystocoele - dacryocystitis

• **onset:** at birth

• **clinical features:**
  – a bluish swelling of the skin overlying the lacrimal sac and superior displacement of the medial canthal tendon

• **evolution / prognosis:**
  – 2 potential complications:
    • acute dacryocystitis (erythema, swelling, tenderness, and fever).
    • nasal obstruction (due to distension of the mucosal lining of the nasolacrimal duct and creation of mucoceles that extend into the nose)

• **treatment:**
  – decompression of a dacryocystocele into the fornices with digital massage and/or probing of the common canaliculus
  – opening of the intranasal component of the lesion (if needed)
  – acute dacryocystitis: systemic antibiotics in order to prevent the development of secondary preseptal or orbital cellulitis, sepsis, meningitis, or brain abscess.
Staphylococcal scalded skin syndrome (SSSS)

- encompasses a spectrum of superficial blistering skin disorders caused by the exfoliative toxins of some strains of Staphylococcus aureus
- syn. : Ritter von Ritterschein disease
- onset:
  - most common in children and neonates (98% < 6y)
  - rare in adults (often immunocompromised)
- clinical features:
  - prodromal phase:
    - low grade fever
    - cutaneous tenderness
    - scarlatiniform erythema
  - exudative phase:
    - large, flaccid blisters and erosions
    - purulent conjunctivitis
    - circumoral crusting
    - NO mucosal involvement!
  - desquamative phase:
    - desquamation
Staphylococcal scalded skin syndrome (SSSS)

- **etiology:**
  - pathogenesis: exotoxine A (Europe & USA) or B (Japan), produced by roughly 5% of Staphylococcus aureus, act as protease that targets desmoglein-1 in the superficial epidermis

- **diagnosis:**
  - clinical features
  - frozen section of skin biopsy or from exfoliated skin samples: intraepidermal level of blistering
  - cultures from areas of suspected primary infection

- **treatment:**
  - penicillinase-resistant antistaphylococcal antibiotics (e.g. flucloxacilline)
  - local wound care (e.g. Flaminal hydro)
  - pain relief
  - appropriate fluid and electrolyte management

- **evolution / prognosis:**
  - complete recovery without sequelae
  - mortality rate in children: 1-5%
  - in adults: 50-60%
Stevens-Johnson syndrome

- immune-complex–mediated hypersensitivity complex that typically involves the skin and the mucous membranes (oral, ocular and genital)
- SJS and TEN are considered as the same disease with different spectrums of severity according to the magnitude of epidermal detachment

Pictural representation of SJS, SJS-TEN overlap and TEN showing the surface of epidermal detachment.
(Adapted from Bastuji-Garin S, Rzany B, Stern RS et al. Arch Derm 1993;129: 92-6)
Harr and French Orphanet Journal of Rare Diseases 2010
Stevens-Johnson syndrome

- **incidence:**
  - 0.8/million/year in Germany
  - peak incidence in second decade of life

- **clinical features:**
  - extent of skin lesions is variable
    - no lesions
    - atypical lesions (erythematous and purpuric, urticarial, maculopapular, bullous)
    - target lesions
  - systemic symptoms
    - high fever, weakness and prostration (3w)
    - involvement of nasopharynx, oesophagus and respiratory mucosa
    - less frequent: generalized lymphadenopathy, pneumonia, arthritis and arthralgia, hepatitis, myocarditis, nephritis, …
Stevens-Johnson syndrome

• etiology:
  – precipitating factors:
    • *Mycoplasma pneumoniae*
    • drugs: NSAIDs (ibuprofen, naprosyn), sulphonamides, anticonvulsants (hydantoins, barbiturates), penicillins, tetracycline, doxycycline, …
    • *Yersinia infections*
    • many viruses: enteroviruses, adenoviruses, measles, mumps, influenza, …
    • many bacteria: *Streptococcus*, *typhoid fever*, *Pneumococcus*, *enterobacteria*
    • *Mycobacteria tuberculosis*, BCG
    • syphilis
    • deep fungal infections
    • X-irradiation
    • inflammatory bowel disease
Stevens-Johnson syndrome

- **diagnosis:**
  - clinical features
  - ophthalmology (slit-lamp examination)
  - search for precipitating factor

- **treatment:**
  - etiological:
    - Mycoplasma → clarithromycin
    - stop the suspected drug
    - IVIG 1g/kg/d for 3d (controversial)
  - supportive:
    - IV fluid and adequate feeding
    - fluid balance and electrolyte management
    - pain relief
    - local treatment of lesions

- **evolution / prognosis:**
  - complete recovery without sequelae
  - long-term sequelae: cicatrization of conjunctival erosions
  - recurrences are unusual
Chronic meningococccemia

- a meningococcal sepsis of at least 1 week's duration without meningeal symptoms
- onset: all ages
- incidence: rare
- clinical features:
  - intermittent or persistent fever, frontal headaches, migratory arthralgia
  - recurrent or persisting rash
    - maculopapular (47.6%),
    - nodular (13.1%),
    - petechial (11.9%)
    - polymorphous (27.4%) lesions
- pathogenesis:
  - pathogens: N. meningitidis (serogroup B > other serogroups)
  - host factors (e.g. terminal complement deficiency)
Chronic meningococccemia

• diagnosis:
  – clinical features
  – blood culture
  – N. meningitidis–specific PCR on skin biopsy specimens

• treatment:
  – IV ceftriaxone
  – chemoprophylaxis (e.g. rifampicine) for intimate (household) contacts

• evolution / prognosis:
  – treated: resolution of symptoms within 48 hours
  – untreated: potentially life-threatening

The clinical manifestations of meningococcal disease can be quite varied:

• acute:
  • meningitis
  • meningitis with accompanying meningococccemia
  • meningococccemia without clinical evidence of meningitis

• chronic:
  • chronic meningococccemia
Tinea corporis

- a superficial dermatophyte infection on skin regions other than the scalp, feet, groin, face or hand
- onset:
  - all ages
  - prevalence highest in preadolescents
- clinical features:
  - pruritic, circular or oval, erythematous, scaling patch or plaque that spreads centrifugally.
  - central clearing follows, while an active, advancing, raised border remains.
- etiology:
  - pathogens:
    - 3 genera: Trichophyton, Microsporum, and Epidermophyton
      - most often T. rubrum
      - other: T. tonsurans, M. canis, T. interdigitale, M. gypseum, T. violaceum, and M. audouinii
  - acquisition:
    - by direct skin contact with an infected individual or animal, contact with fomites
    - from secondary spread from other sites of dermatophyte infection (eg, scalp, feet, etc).
Tinea corporis

- **diagnosis:**
  - clinical features
  - KOH preparation
  - fungal culture

- **DD:** NLE, SCLE, erythema annulare centrifugum, nummular eczema, psoriasis, pityriasis rosea

- **treatment:**
  - few lesions: topical antifungal drugs (e.g. terbinafine)
  - numerous lesions: systemic antifungal drugs (e.g. terbinafine, itraconazole)

- **evolution / prognosis:**
  - treated: complete recovery without sequelae
Pityriasis versicolor

- superficial fungal infection, caused by saprophytic, lipid-dependent yeasts in the genus *Malassezia* (formerly known as *Pityrosporum*).

- **Epidemiology:**
  - adolescents and young adults
  - highest incidence in tropical climates

- **Clinical features:**
  - hypopigmented, hyperpigmented, or erythematous macules, coalescing into patches, with fine scales
  - on the trunk, neck and proximal upper extremities
  - asymptomatic or mild pruritus

- **Etiology:**
  - **Pathogenesis:**
    - Transformation of *Malassezia* from yeast cells to a pathogenic mycelial form
  - **Contributing factors:**
    - external: exposure to hot and humid weather, hyperhidrosis, use of topical skin oils
    - host related: genetic predisposition, immunosuppression, oral contraceptive therapy, malnutrition
Pityriasis versicolor

- **diagnosis:**
  - clinical features
  - KOH: "spaghetti and meatballs" (hyphae and yeast cells)

- **treatment:**
  - topical antifungals (e.g. ketoconazole)
  - oral antifungals (e.g. itraconazole, fluconazole)

- **evolution / prognosis:**
  - untreated: can be persistent
  - treated:
    - hypopigmentation and hyperpigmentation can persist for months following successful treatment
    - presence of scaling & a positive KOH preparation is considered indicative of active infection