

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 meningoccemia)
  - 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)

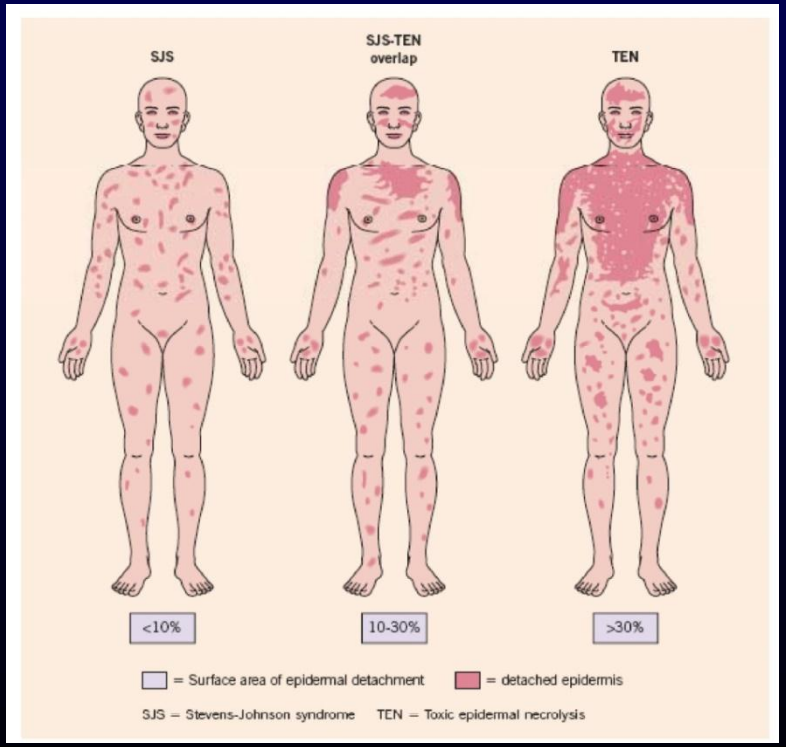
- encompasses a spectrum of superficial blistering skin disorders caused by the exfoliative toxins of some strains of Staphylococcus aureus
- syn. : Ritter von Ritterschein disease
- onset:
  - most common in children and neonates (98% < 6y)
  - rare in adults (often immunocompromised)
- clinical features:
  - 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 antistaphyloccal 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, nefritis, …

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
  - ophtalmology (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 meningococcemia

- 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 meningococcemia

- 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 meningococcemia
  - meningococcemia without clinical evidence of meningitis
- chronic:
  - chronic meningococcemia

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