

McCance: Pathophysiology, 6th Edition

Chapter 45: Alterations of the Integument in Children

Key Points – Print

SUMMARY REVIEW

Acne Vulgaris

1. Acne vulgaris is the most common skin disease, affecting 85% of the population between the ages of 12 and 25 years.
2. Acne is characterized by noninflammatory and inflammatory lesions related to follicular hyperkeratinization, excessive sebum production, plugging of sebaceous glands, and *P. acnes* colonization. Acne conglobata is a severe form of acne with communicating cysts and abscesses.

Dermatitis

1. Atopic dermatitis is associated with elevated IgE levels, a family history of asthma and hay fever, and altered skin barrier function. Red, scaly lesions commonly occur on the face, cheeks, and flexor surfaces of the extremities in infants and young children.
2. Diaper dermatitis is a type of irritant contact dermatitis initiated by a combination of factors that include prolonged exposure to urine and feces; frequently the infant becomes infected secondarily with *C. albicans*.

Infections of the Skin

1. Impetigo is a contagious bacterial disease that occurs in two forms: bullous and vesicular (contagious). The toxins from the bacteria produce a weeping lesion with a honey-colored crust.
2. SSSS is a staphylococcal skin infection that occurs more commonly in young children with low titers of antistaphylococcal antibody. Painful blisters and bullae form over large areas of the skin, requiring systemic antibiotics for treatment.
3. Tinea capitis (infection of the scalp) and tinea corporis (infection of the body) are fungal infections caused by dermatophytes.
4. *C. albicans* infection is a superficial fungal infection of the mouth (thrush).
5. Molluscum contagiosum is a poxvirus of the skin that produces pale papular lesions filled with viral and cellular debris.

6. Rubella (also known as *German* or *3-day measles*) is a communicable disease characterized by fever, sore throat, enlarged cervical and postauricular nodes, and a generalized maculopapular rash that lasts 1 to 4 days.
7. Rubeola is a highly contagious disease of children. Symptoms include high fever, enlarged lymph nodes, conjunctivitis, and a red rash that begins on the head and spreads to the trunk and extremities and lasts 3 to 5 days. Bacterial and viral complications may accompany rubeola.
8. Roseola is a benign disease of infants with a sudden onset of fever that lasts 3 to 5 days, followed by a rash that lasts 24 hours.
9. Chickenpox (varicella) is a highly contagious disease caused by the VZV. Vesicular lesions occur on the skin and mucous membranes. Individuals are contagious from 1 day before the development of the rash until about 6 days after the rash develops.
10. Herpes zoster (shingles) is a viral eruption of vesicles on the skin along the distribution of a sensory nerve caused by latent activation of the VZV. Children with immune suppression develop more serious complications.
11. Smallpox (variola) is a highly contagious, deadly disease that has been eradicated worldwide by vaccination.

Insect Bites and Parasites

1. Scabies is an itching lesion caused by the itch mite that burrows into the skin, forming papules and vesicles. The mite is very contagious and is transmitted by direct contact.
2. Pediculosis (lice infestation) is caused by blood-sucking parasites that secrete a toxic saliva and damage the skin to produce a pruritic dermatitis. Lice are spread by direct contact and are recognized by the ova, or nits, that attach to the shaft of body hairs.
3. Flea bites produce a pruritic wheal with a central puncture site and occur as clusters in areas of tight-fitting clothing.
4. Bedbugs are blood-sucking parasites that live in cracks of floors, furniture, or bedding and feed at night. They produce pruritic wheals and nodules.

Hemangiomas and Vascular Malformations

1. Hemangiomas are benign vascular tumors that emerge at birth and resolve spontaneously through the childhood years. Strawberry hemangiomas (distinct, raised vascular lesions) are more superficial, and cavernous hemangiomas, with larger and more mature vessels, are deeper lesions.
2. Vascular malformations are congenital anomalies of blood vessels. Low-flow malformations involve capillaries, veins, and lymphatics; high-flow malformations involve arteries.
3. Nevus flammeus (port-wine stain) is a deeper congenital malformation of the dermal capillaries, and salmon patches are more superficial vascular malformations.

Other Skin Disorders

1. Miliaria is characterized by small pruritic papules or vesicles that result from prolonged exposure to perspiration and subsequent obstruction of the eccrine ducts in infants.
2. Erythema toxicum neonatorum is a benign, erythematous, accumulation of macules, papules, and pustules that appear at birth or 3 to 4 days after birth and then spontaneously resolve within a few weeks.
3. TEN and SJS are similar to SSSS with a blistering skin reaction; the causative agent is usually a drug.