Genodermatosis

Genodermatoses are a broad spectrum of heritable disorders that affect the skin and may or may not affect other organs.

The type of disease depends on how the genes are affected but the resultant conditions can be serious, rare and severely affect the patient’s life by leading to disabilities, a short life span, and the development of other chronic diseases and cancer

NEUROFIBROMATOSIS

NF1 is an autosomal dominant disorder with an incidence of approximately 1 in 3000 births.

 NF is a disorder that affects the bone, the nervous system, soft tissue, and the skin.

 Up to 50% of patients with NF1 have a new spontaneous mutation rather than an inherited mutation.

 Characteristic clinical findings include café-au-lait macules, neurofibromas, freckling in the axillae and groin, Lisch nodules, and bony defects

1- Café au lait spots . brown macules. develop during the first 3 years of life . 5 or more greater than 0.5 cm in diameter are suggestive of NF.

 2-Lisch nodules are pigmented iris hamartomas .These 1–2 mm, dome-shaped, yellow–brown papules are best seen on slit-lamp examination. Lisch nodules, begin to develop at about 3 years of age and are found in ~90% of NF1 patients by 20 years of age

3-Axillary freckling diagnostic feature in NF as “Crowe’s sign” (1–3) mm brown macules. Involvement of the axillae is most common, occurring in about 80% of NF1 patients .

4-Neurofibromas benign tumor of NF.They can develop along a nerve. cutaneous neurofibromas are asymptomatic skin-colored to pink, tan papulonodules that are soft or slightly rubbery in texture .

appear as early as 4–5 years of age but more typically develop around puberty. Tumors increase in both number and size as the patient ages. Some patients have only a few small tumors, whereas others develop hundreds over the entire body surface, including the palms and soles.

Cardiovascular manifestations

Hypertension is a common finding in NF1 patients. Although essential hypertension is most frequent, Reno vascular stenosis (especially in children) and unsuspected pheochromocytomas may be the cause in some patients.

Bone involvement : kyphoscoliosis, pseudo arthrosis

neurologic abnormalities deafness , seizures

Endocrinologic problems . Short stature and growth hormone deficiency

Patients with NF are four times more likely to develop malignancies than the general population. An increased incidence of breast carcinoma, rhabdomyosarcomas, gastrointestinal (GI) malignancies, and chronic myelogenous leukemia (CML) has also been reported.

Timing of onset of clinical manifestations

* skeletal defects are probably congenital, CALMs are congenital or become apparent in the first few years of life. Intertriginous “freckling”, Lisch nodules, usually occur by the school-age years, and multiple NFs typically start to develop closer to puberty.
* Management

Goals of longitudinal care include early recognition and treatment of complications, and minimization of the disease’s psychosocial impact

Tuberous Sclerosis

autosomal dominant

epilepsy, mental retardation, and adenoma sebaceous

1- adenoma sebaceous, is cutaneous hamartoma (angiofibroma),clusters of yellowish-pink papules, located mainly on nasolabial fold, cheek & chin

2- hypomelanotic (ash leaf) macules :earliest sign, present at birth

3– Shagreen patch . soft, ﬂesh-colored to yellow plaques with an irregular surface ,appears most commonly in the lumbosacral region.

4-Periungual fibroma : appear at or after puberty in approximately 50% of cases. They are

smooth, ﬂesh-colored, conical projections that emerge from the nail folds of the toenails and ﬁngernail.

Xeroderma Pigmentosum (XP)

XP is autosomal recessive genetic disorder in which there is a decreased ability to repair DNA damage such as that caused by ultraviolet light.

 Symptoms may include a severe sunburn after only a few minutes in the sun, freckling in sun exposed areas, dry skin and changes in skin pigmentation. Skin cancer that develop before the age of 10 years.

 Actinic keratoses, basal cell carcinomas (BCCs), squamous cell carcinomas (SCCs), and less frequently, melanomas develop in sun exposed sites

Ocular abnormalities are observed in ~40% of patients. Severe photophobia, keratitis, corneal opacification

Nervous system problems, such as hearing loss, poor coordination, loss of intellectual function and seizures. There may be a higher risk of brain cancers.

Diagnosis is typically suspected based on symptoms and confirmed by genetic testing.

Median lifespan: 37 years. Death most commonly due to: skin cancer, neurologic degeneration, internal malignancies

There is no cure for XP. Treatment involves completely avoiding the sun. This includes protective clothing, sunscreen and dark sunglasses when out in the sun. Retinoid creams may help decrease the risk of skin cancer. If skin cancer occurs, it is treated in the usual way.

ICHTHYOSIS

group of skin disorders characterized

by an excess accumulation of cutaneous scale,

 Ichtyosis either congenital or acquired.

 congenital:

 1-Dominant ichthyosis vulgaris (DIV)

 2-X-linked recessive ichthyosis (XLI)

 3-Lamellar ichthyosis (LI)

 4-Epidermolytic hyperkeratosis (EH)

ICHTHYOSIS VULGARIS

Most common, autosomal Dominant, onset usually at puberty, excessive dryness (xerosis) & scales on trunk & limbs but sparing the flexures, no significant ocular findings, The condition tends to improve with age ,frequently associated with atopy

Severity and symptoms such as pruritus depend on the season and climate, improving during the summer and with higher humidity, and worsening in a dry, cold environment. Ichthyosis vulgaris is frequently associated with keratosis pilaris and the atopic dermatitis in up to 25-59%

Acquired ichthyosis

usually in adults as small, white, fine scales that seen mainly on the extremities

1- internal neoplasia (e.g., Hodgkin lymphoma, leukemia),

2-systemic illness: sarcoidosis, hypothyroidism, chronic hepatitis, malabsorption , bone marrow transplantation,

3- infection: HIV, leprosy

4- drugs: nicotinic acid, statins

The mainstay of treatment is application of emollients and keratolytic agents to reduce scaling. Preparations that contain urea and/or glycolic, lactic, or salicylic acid are usually beneficial