

PhotoDermDiagnosis

Asymptomatic solitary growth over left foot

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A 48-year-old male presented with an asymptomatic growth over the left foot of eighteen months duration which started as small papule and gradually progressed to the present size. There was no history of any preceding trauma, ulceration, discharge, sinus, bleeding from the growth. There was no history of similar lesions over other body areas and history of similar growth in any of the family members. She was not diabetic or hypertensive. Examination revealed skin colored sessile growth of 3x1cm (**Figure 1**) over the base of second toe of left foot. The surface of the lesion was smooth with no skin changes. Nail, hair, oral mucosa, palms and soles were normal. Excision biopsy of the lesion was done and characteristic histopathologic features were seen (**Figure 2 and 3**).

What is your diagnosis?



Figure 1 Skin-colored, soft to firm, non-tender nodule over base of second toe.

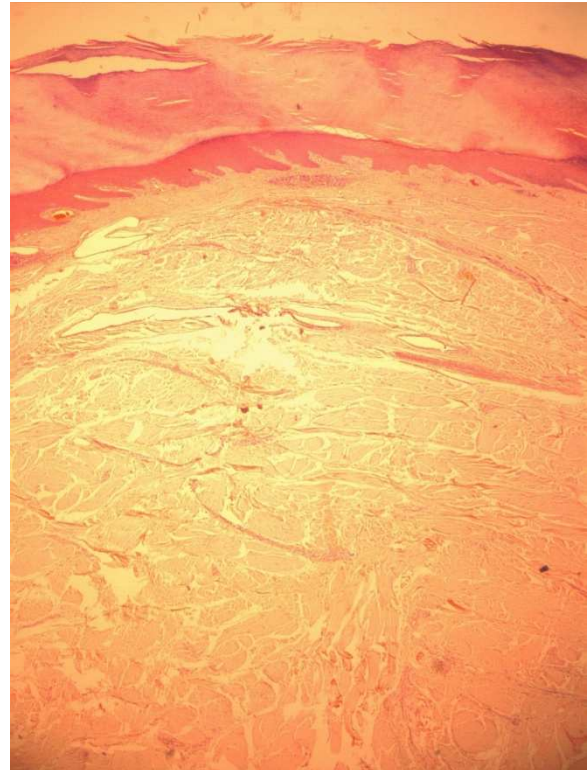


Figure 2 Low power view.

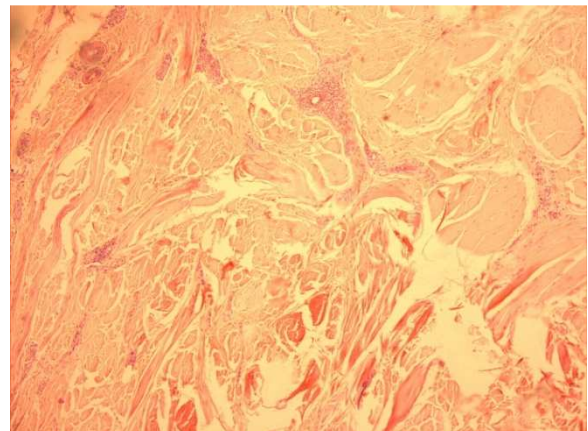


Figure 3 Magnified view.

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Multiple plaques, cysts and sinuses in linear distribution

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A 30-year-old man presented with multiple papules, plaques, pustules, cysts and sinuses over left chest and left upper extremity since puberty. He developed few asymptomatic pits containing dark material on left forearm at the age of 6 years. New lesions kept appearing and they appeared much faster after puberty. The course of the disease was complicated by intermittent development of pustules and painful cysts which used to rupture and discharge keratinous material. He received various treatments with no relief and the condition followed the course described above. On examination, multiple clustered papules, plaques, few cysts and sinuses were seen on left chest and left upper extremity in a linear distribution (**Figure 1**). Plaques were studded with pustules and comedones-like papules. Cysts and sinuses discharging dark keratinous material were seen on forearm too. Lesions on chest were comedones-like papules mostly. Multiple small superficial pits were found on left palm, central and lateral parts, in linear distribution



Figure 1 Lesions in a linear distribution.



Figure 2 Close up of lesions over palm.



Figure 3 Histopathology photograph hematoxylin and eosin-stained 40X .

(**Figure 2**). Rest of the mucocutaneous and systemic examination was unremarkable. Skin biopsy from the forearm is shown in **Figure 3**. What is the diagnosis?

PhotoDermDiagnosis Answers

Asymptomatic solitary growth over left foot

Diagnosis

Soft fibroma or acrochordon

Histopathology showed a hyperplastic stratified squamous epithelium overlying large dilated vascular channels in upper dermis, sparse lymphoplasmacytic infiltrate forming perivascular aggregates and dense bands of collagen interspersed with adipose tissue and thick walled blood vessels. These features are consistent with acrochordon.

Discussion

Acrochordons also known as skin tags, cutaneous tag, soft fibroma, fibroma molle, soft warts and fibroma pendulans are benign connective tissue tumours of the dermis.¹ These are commonly seen in middle-aged and elderly subjects especially menopausal women. These occur mainly on the neck and major flexures especially axillae as small, asymptomatic soft, skin-coloured or hyperpigmented, usually pedunculated lesions.^{2,3} Rarely, the lesions may get strangulated. These are reported to develop in areas of skin friction.⁴ Larger lesions are associated with diabetes especially when reported in groins and upper thighs. Clinical types commonly described are furrowed papules, filiform lesions and large bag like protrusions. Other clinical types described are vestibular papillae of vulva and fibroepithelial polyp of anus.⁵

Histopathology of a skin tag depends on the clinical type. Furrowed papillae show epidermal hyperplasia with occasional horn cysts. Filiform type shows an acanthotic epidermis with the connective tissue stalk comprised of well vascularised, loosely arranged collagen. Loose bag like structures have loosely arranged collagen with a central core of fat adipose tissue.⁵ Histologic variants described are sclerotic fibroma, pleomorphic fibroma and myoid fibroma.^{6,7,8}

Acrochordons are one of the components of Birt-Hogg-Dune syndrome, the other components being fibrofolliculomas and trichodiscomas. As acrochordons are asymptomatic, treatment is sought for cosmetic concerns only. Reported associations of acrochordons are acanthosis nigrans, diabetes mellitus, colonic polyps and acromegaly.^{9,10}

Reports of acrochordon over feet are very rare and not reported in literature. Surgical excision is the treatment of choice.

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Multiple plaques, cysts and sinuses in linear distribution

Diagnosis

Nevus comedonicus, inflammatory variant

Discussion

Nevus comedonicus (NC), first reported by Kofmann in 1895, is a rare hamartoma of pilosebaceous unit resulting in numerous keratin-filled comedones, arranged in linear nevoid pattern.¹ It is also known as comedo nevus, nevus follicularis keratosis, nevus acneiformis unilateralis, and nevus zoniforme.² It can first appear at birth (50%) or later in childhood, mostly by 10 years. Adult onset is also known and usually follows trauma.^{1,3} There is no racial or sexual predilection. Although familial cases are reported, it is mostly sporadic.^{1,3}

The exact pathogenesis is not clear; however, genetic mosaicism for FGFR2 mutation has been found.¹ This results in failure of the mesodermal

part of the folliculosebaceous unit to develop properly, with subsequent abnormal differentiation of the epithelial portion. No terminal hair or mature sebaceous glands are formed but there is continuous production of soft keratin, which accumulates and produces the comedo-like lesions.³

NC is usually asymptomatic and patients seek help for cosmetic concerns. It presents as clustered pits filled with black keratinous plugs resembling blackheads with inflammatory acne lesions developing later.⁴ Their size is variable ranging from few centimeters to extensive lesions affecting half of the body.¹ The intervening epidermis may appear normal, hyperkeratotic, or slightly hypo- or hyperpigmented.⁴ Face, trunk and upper extremities are most commonly affected. Scalp is rarely affected. Lesions may be present on palm or sole along with extremities lesions. Such palm or sole lesions are porokeratotic eccrine duct nevus, which is frequently seen with NC.¹ When it occurs on the elbows and knees, it can appear as verrucous nodules.^{1,3} Many variants are known: bilateral linear, randomly distributed rather than linear, inflammatory variant with papules and cysts, zosteriform pattern etc.^{1,4} When present since birth, it grows with the growth of child and growth becomes faster at puberty.³ Repeated bacterial infections, cysts, fistula and abscesses may develop over lesions and may result in scarring.⁴

NC may be found in association with eye, skeletal, skin and central nervous system abnormalities and is known as nevus comedonicus syndrome (NCS). Congenital cataracts, scoliosis, spina bifida occulta, foot deformities, absent fifth finger, syndactyly, ichthyosis, trichilemmal cysts, leukoderma, white hair, epilepsy, transverse myelitis,

microcephaly and multiple basal cell carcinomas are common findings in NCS.^{3,4}

Common differential diagnoses include infantile acne, familial dyskeratotic comedones (FDC), extensive comedones due to chloracne and sun damage, dilated pore nevus and porokeratotic eccrine ostial duct nevus.^{1,2,4} In infantile acne lesions are not linear and are self-limited. In FDC lesions are symmetrical and widespread rather than linear. Extensive comedones due to chloracne and sun damage are distinguishable by their non-linearity. Dilated pore nevus resembles nevus comedonicus clinically but differs histologically by containing dilated follicular cysts. Porokeratotic eccrine ostial duct nevi also may be distinguished histologically as lesions are comprised of dilated eccrine ducts containing parakeratotic debris.

Diagnosis is made clinically. Histopathological findings are quite characteristic.⁵ Each comedo is represented by a wide, deep invagination of the epidermis filled with keratin. Rudimentary hair follicles and one or two small sebaceous gland lobules may also be seen at the lower pole of invaginations. Epidermolytic hyperkeratosis may sometimes be present in the follicular epithelium. The interfollicular epidermis is often normal but may appear papillomatous or hyperkeratotic. If NCS is suspected, radiological evaluation may help in identifying skeletal abnormalities. Abnormal electroencephalogram findings may be seen in NCS.

Asymptomatic lesions may require treatment for cosmetic reasons.^{1,2,3} Keratolytic agents may improve the appearance of lesions. Localized lesions can be surgically excised, although it is often difficult to excise larger lesions. In such cases superficial shaving, dermabrasion and manual comedo extraction may help. Isotretinoin is helpful in preventing cyst

formation and scarring but is not recommended for long term use. Antibiotics may be needed to treat secondary infections.

We considered hidradenitis suppurativa (HS) and inflammatory variant of nevus comedonicus as differential diagnosis in our case. Cysts, sinuses and some scarring are also seen in HS but site is unusual. Histopathological findings i.e. deep invagination of epidermis that is filled with keratinous material and invagination not related to hair follicle are consistent with the diagnosis of NC. HS is characterized by perifolliculitis which may destroy the pilosebaceous unit and in healing stages, by fibrosis⁶ and so was excluded in our case.

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