Original Research Article

Indian Journal of Pathology: Research and Practice
Volume 7 Number 1, January 2018
DOI: http://dx.doi.org/10.21088/ijprp.2278.148X.7118.5

Fibroepithelial Polyps at Unusual Sites with Review of Literature

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Abstract

Background: Fibroepithelial polyps are common small protuberant benign lesions primarily developing in areas where the skin forms creases such as neck, axillae, and groin. They may also arise on the face, usually on the eyelids. It occurs predominantly with advancing age, typically painless, and do not grow or change over time. An important triggering factor seems to be frequent irritation of the skin, especially in persons who are obese. Diagnostic problem is faced when it is located at unusual site and huge size. *Materials and Methods:* Retrieval of all cases of fibroepithelial polyp were made from August 2014 to May 2017. A retrospective analysis of all cases of fibroepithelial polyps reported in histopathology section of department of Pathology, AIIMS, Patna weredone with patients details, site of lesion, gross and microscopic findings. *Conclusion:* Fibroepithelial polyp is a common entity but their occurrence at unusual site pose a diagnostic challenge to both the clinicians and pathologists.

Keywords: Fibroepithelial; Polyp; Neoplasm; Intertriginous; Histopathology; Pedunculated.

Introduction

Fibroepithelial polyps (FEPs) are benign polypoid lesions arising from the mesodermal tissue and composed of varying amounts of stroma covered by squamous epithelium. They are often seen in the skin (head and neck, axilla, inframammary region) and, also in the gastrointestinal, low respiratory and genitourinary system [1]. Upper airway FEP is a rare lesion [2].

Their unusual locations at various sites along with overlapping morphological features with other mesenchymal lesions always pose a diagnostic challenge to pathologists. They are skin colored or hyperpigmented, may appear as a surface nodule or papilloma on healthy skin. Fibroepithelial polyps may occur singly or in multiples and vary in size from 2-5 mm in diameter to more than 5 cm in diameter [3].

In this article we present a series of cases of fibro-epithelial polyps occurring at various unusual sites with varied clinical presentations.

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(Received on 14.11.2017, **Accepted on** 25.11.2017)

Materials and Methods

A retrospective study of all cases of Fibroepithelial polyps reported in histopathology section of department of Pathology, AIIMS Patna was made from August 2014 to May 2017. Clinicaldetails andsite of lesions were retrieved and highlighted in Table 1.

Grossly we divided FEPs into three types; on the basis of presence or absence of stalk and external appearance. Type I: sessile polyps (31.2%), Type II-pedunculated polyps with stalk (56.2%) and Type III (12.5%)–with multiple small papillomatous projections over the external surface. Details of individual polyp is highlighted in Table 2. The size of Fibroepithelial polyps in our study varied from smallest 0.5 x0.3 cm to largest 30x25 cm grossly (Figure 1 & 2).

In Case 16, a 20 year old female presented with a large polypoid growth on left thigh for 7 years. Physical examination revealed a large polypoidmass on left thigh, soft in consistency, nontender and with restricted mobility and clinically it was diagnosed as Lipoma. Contrast enhanced computed tomography (CECT) of thigh revealed a well-defined soft tissue mass of size 30x 25x7.5 cm with minimal enhancement involving left psoas muscle lesion (Figure 3).

Radiological diagnosis of Soft tissue sarcoma was made. The lesion was surgically removed and sent for histopathology and final diagnosis of Giant fibroepithelial polyp of left thigh was made.

Histopathological examination show all the cases were covered by epidermis, majority of them showed hyperkeratotic (75%) and few atrophic (25%) epidermis andtwo had irregular epidermal projections also (12.5%). Majority of the cases showed prominent fibrovascular cores (68.7%) and mild perivascular infiltration of lymphocytes or plasma cells (56.2%). Secondary changes in the form of collagenization (18.7%), myxoid changes(12.5%) and dystrophic calcification (6.25%) were seen. Regarding the degree of papillary growth of this tumor, the exophytic growth pattern was of a lower level than that of papilloma. These findings suggested a diagnosis of fibroepithelial polyp.(Table 3) (Figure 4 & 5).

Table 1: Distribution of fibroepithelial polypswith age, sex and site of origin

Case No.	Age/ Sex	Site of polyp
1.	14/M	Anteromedial aspect of right calf
2.	35/M	Rectal growth
3.	53/M	Back of left thigh
4.	17/F	Skin tag over right breast, adjacent to nipple
5.	18/F	Pustular lesion, right thigh
6.	70/M	Perianal growth
7.	42/M	Warty growth inside anal canal
8.	30/F	Left thigh
9.	24/M	Left arm
10.	21/F	Anal growth
11.	74/M	Anterolateral aspect of right mandible
12.	55/F	Right thigh
13.	30/F	Warty growth over right breast
14.	18/M	Right forearm
15.	3 months/ F	Mass protruding from urethral opening.
16.	20/F	Polypoidal swelling in left groin

Table 2: Categorization of FEP on the basis of gross appearance with or without stalk

Gross appearance of FEP	No. of cases (%)
Type 1-sessile	05 (31.2%)
Type II- Pedunculated	09 (56.2%)
Type III- multiple small papillomatous projections over the surface	02(12.5%)

Table 3: Microscopic findings of FEPs

Microscopic findings	No. of Cases (%)
Hyperkeratotic epidermis	10(62.5%)
Atrophic epidermis	04(25%)
Multiple irregular epidermal projections	02(12.5%)
Prominent fibrovascular cores	13
Extensive fibrous tissue proliferation and collagenization with edema of dermis	03 (18.7%)
Proliferation of blood vessles in dermis	04(25%)
Myxoid changes in dermis	02 (12.5%)
Presence of dystrophic calcification	01(6.25%)
Presnence of inflammation	
Mild chronic inflammatory cell infiltrate	09(56.2%)
Dense chronic inflammatory cell infiltrate	04(25%)
Acute and chronic inflammatory cell infiltrate	03(18.7%)

Fig. 1: Gross photograph of Fibroepithelial polyp showing a skin covered mass with small stalk. Cut section: solid, homogenous and grayish white in color

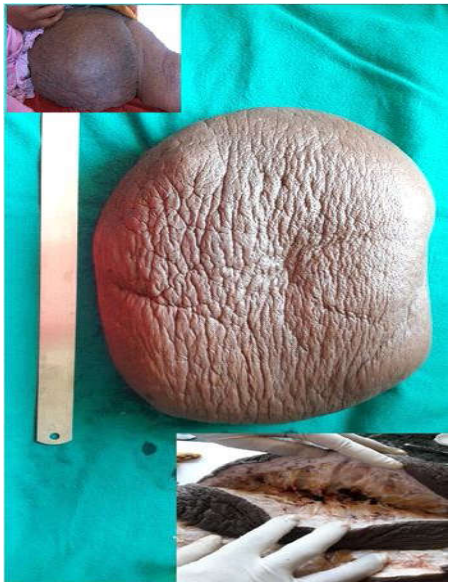

Fig. 2: Gross photograph of Giant fibroepithelial polyp measuring 30x25x7.5 cm sessile, covered with skin. Inset 1shows clinical photograph of the lesion. Inset 2 shows cut section of the mass which is solid, grayish white homogenous

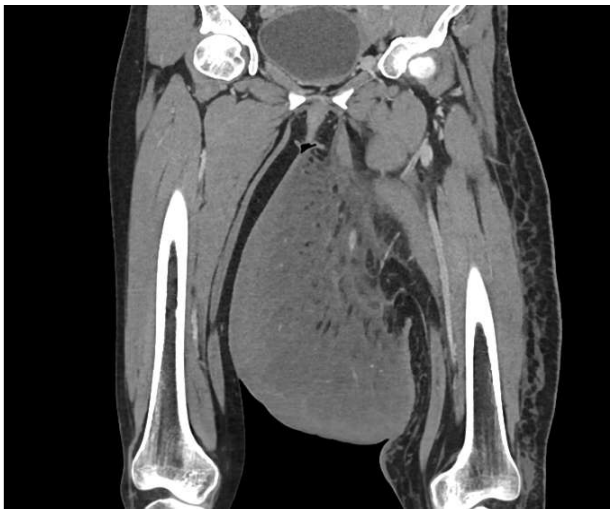

Fig. 3: CECT image of the giant fibroepithelial polyp showing awell-defined soft tissue mass of size 30x25x7.5cm with minimal enhancement involving left psoas muscle lesion

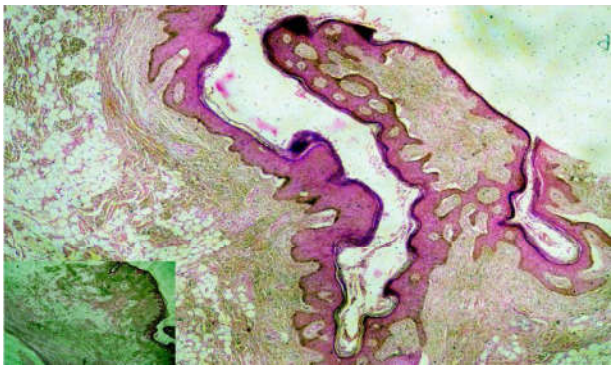

Fig. 4: Microphotograph of fibroepithelial polyp showing a skin covered polypoidal structure with mild chronic inflammatory cell infiltrate (H&E; 100X). Inset shows same histopathological features at lower magnification (H&E; 40X)

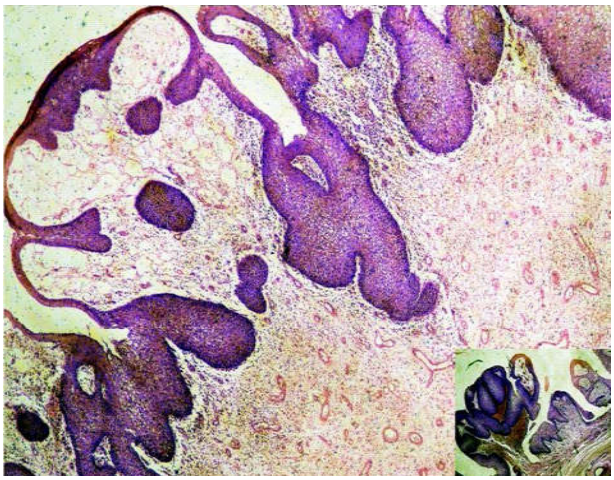

Fig. 5: Microphotograph of fibroepithelial polyp showing a skin covered polypoidal structure lined by stratified squamous epithelium which is acanthotic as well as atrophic at places with edematous loose stroma, blood vessel proliferation and mild chronic inflammatory cell infiltrate. (H&E; 100X).Inset shows same at higher magnification (H&E; 400X)

Discussion

Clinically skin tags have been classified into three types: 1)Multiple small papules of 1-2 mm long, 2) single or multiple filliform smooth growth, about 2 mm wide and 5 mm long, 3) Solitary bag like peduculated form usually about 1 cm in diameter [4]. Although skin tags are found in nearly 46% of general population, there are only few cases reports of giant skin tags reported in literature [5]. FEPs are more common in males between 40 and 70 years of age [3,4]. In our study M:F ratio was 1:1.

Fibroepithelial polyps are soft flesh colored pedunculated lesions that tend to occur commonly in intertriginousareas [6]. They are usually asymptomatic and don't become painful unless and until inflamed or irritated. They may occur at unusual sites of the body like on genitals, i.e on the penis or vagina. Pedunculated lesions may become twisted, infracted and fall off spontaneously.

The exact etiology of FEP is unknown. A few theories exist regarding the cause of these tumors. The first one is a theory of development secondary to focal losses of elastic tissue [7]. The second theory is that FEP is a mixture of different tissue elements which could represent hamartoma of the lamina propria that slowly enlarge [8]. Lloyd et al described the case of the development of chondroid metaplasia within an FEP situated on the tongue [9,10]. This metaplasia in FEP is unclear but it may occur as a defensive reaction and originate from multipotential mesenchymal cells.

Frequent irritation seems to be the most important causative factor.Hormonal imbalances may facilitate its development .Epidermal growth factor (EGF) and alpha- tissue growth factor (α -TGF) have also been implicated in the development of these skin tags [11]. Human Papillomavirus types 6/11 have been found in high percentage of skin tag biopsy samples and thus considered as an important pathogenic cofactor [10].

Acrochordonsassociated with fibrofolliculomas andtrichodiscomas have been described as componentsof Birt-Hogg-Dubé (BHD) syndrome, an autosomaldominant disorder [12]. They have been reported toaccompany other neoplasms, especially tumors ofthe gastrointestinal tract and kidneys. Neoplasms aresuggested to produce and release growth factors in the circulationthat cause development of acrochordon.

Three types accrochordons are described, as follows:

1. Small, furrowed papules of approximately 1-2 mm in width and height, located mostly on the neck and axillae.
2. Single or multiple filiform lesions of approximately 2 mm in width and 5 mm in length occurringelse where on the body.
3. Large, pedunculated tumors or nevoid, bag-like,soft fibromas that occur on the lower part of thetrunk.

Acrochordons have been reported to have an incidenceof 46% in the general population. They are benign tumors. On rare occasion histological examination of a clinically diagnosed FEP reveals a basal or squamous cell carcinoma. In a recentstudy, of 1,335 clinically diagnosed FEP specimens, four cases were found to be malignant squamous cell carcinoma and one was squamous cell carcinoma in situ. This study concluded that clinically diagnosed FEPs have a low probability of having malignant characteristics onhistological examination [13].

Histologically, the lesions are characteristically polypoidand usually contain a conspicuous fibro vascular core. Thestroma is the most distinctive aspect of the lesion and canexhibit a wide range of appearances. The stroma can behypocellular, being composed of bland spindle shaped cellswith indistinct cytoplasm set within a loose or finely collagenousmatrix. Stellate and multinucleate stromal cells may be noted at the epithelial-stromal interface. At the other end of the spectrum, the stroma of some FEPs exhibit marked cellularity, nuclearpleomorphism and increased mitotic activity includingatypical mitoses [14].

FEPs show variable morphological appearances and, asin the vulvovaginal area, need to be distinguished fromother mesenchymal lesions. In the breast, a wide range of benign and malignant spindle cell lesions occur in the breast. Atypical neurofibroma and pleomorphicfibroma are possible differentials. The former is S100 positiveand pleomorphic fibromahas atypical single fibroblasts which are CD34 positive [15].

Given the postulated origin, the FEPs should also be differentiatedfrom the entity called pseudo sarcomabotryoides. Fibroepithelial polyps with atypical stromal cells that was previously described in the vulva and vagina [12,13]. Although histologically benign, two out of the 13 case series describedrecurred after incomplete excision.

Sarcoma botryoides (embryonal rhabdomyosarcoma), on the other hand, is a frankly malignant tumour that arises under the mucosal surfaces of body orifices such as vagina, bladder and cervix . They often occur at a youngerage (childhood, adolescence). The characteristic findings are presence of cambium layer and the pleomorphic spindle cells with rhab domyoblasts [16,17].

Conclusion

Fibroepithelial polyps are common lesions but at unusual sites pose diagnostic challenge to clinicians as well as pathologists. Although FEPs are benign and slow growing lesions, their early surgical excision and histopathological examination for correct diagnosis is essential because of possibility of tissue metaplasia and malignant transformation.

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