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Symptomatic fibroepithelial polyp of the nipple in a pediatric patient

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ABSTRACT

Skin tags are benign growths typically found on intertriginous areas of the body. The most common type of skin tag is the acrochordon, skin-colored papules with short, broad stalks. A rarer type of skin tag is the fibroepithelial polyp (FEP), which tend to be larger, with long, narrow stalks. We evaluated a pediatric patient with a nipple lesion that was intermittently painful and discolored. Simple excision and primary closure was performed with excellent results and relief of symptoms. Pathology revealed benign FEP with a few benign lactiferous ducts at the base of the specimen. While the differential for benign nipple lesions is long, with only 8 documented cases of FEP of the breast and none documented in the pediatric population, this poses a diagnostic challenge. Literature shows that FEPs can grow to a large size over time and become increasingly symptomatic. The benefits of simple excision and primary closure of FEP of the nipple include improved cosmesis, improvement in symptoms, and reassurance for patient and family with benign pathology. Given the rarity of this lesion in both location and patient population, it is important for clinicians to differentiate FEP of the nipple from other benign and malignant growths.

1. Background

Skin tags are benign growths of mesodermal origin most commonly found in skin folds in areas such as the neck, chest, axilla, eyelids, and perineum. Acrochordons are skin tags that are soft, skin-colored papules with short, broad 1–3 mm stalks. Proposed etiology includes congenital lesions, trauma, chronic irritation, and allergies. A rarer form of skin tag is the fibroepithelial polyp (FEP), which, in contrast, is a larger lesion with a long, narrow stalk, and may appear pedunculated. Few cases of skin tags of the breast or nipple have been reported [1,2], and fewer still reported in the pediatric population [3]. In this report, we present the first documented case of a FEP of the breast of a pediatric patient, management, and review of the literature.

2. Case report

A 14-year-old Caucasian female was referred to the Pediatric Plastic Surgery clinic by her primary care physician for evaluation and treatment of a left nipple lesion. The patient's past medical, surgical, and family history were non-contributory. The lesion had

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been present for 2–3 years without much change in size. The lesion was at times painful, or would turn purple in color while the patient wore a bra. The remainder of the history was negative for associated signs or symptoms. The patient denied any history of soft tissue masses or skin tags. The patient had previously undergone ultrasound of the left breast due to pain one year prior to this presentation, with negative results, BI-RADS 1 (normal fibroglandular tissue throughout the central and superior left breast, no masses or suspicious findings) (Fig. 1). On physical exam, this healthy-appearing adolescent female was noted to have a long, polypoid-like left nipple lesion, approximately 1 cm in length with a base of 2–3 mm, its texture the same as the nipple (Figs. 2 and 3).

Excision was recommended due to episodes of pain and congestion. An elliptical incision 6 mm in diameter was made surrounding the left nipple lesion and the mass was excised. The skin was then re-approximated using 6-0 chromic suture and the wound dressed with sterile skin glue. The excised lesion measured 8 mm in length, 3 mm at its base, and had a pink, polypoid appearance. Final pathology revealed an 8 × 6 mm fibroepithelial polyp, benign, with a few benign lactiferous ducts noted underneath (Figs. 4–6). At her one week post-operative visit, the patient reported no pain at the incision site and had resumed her normal activities.

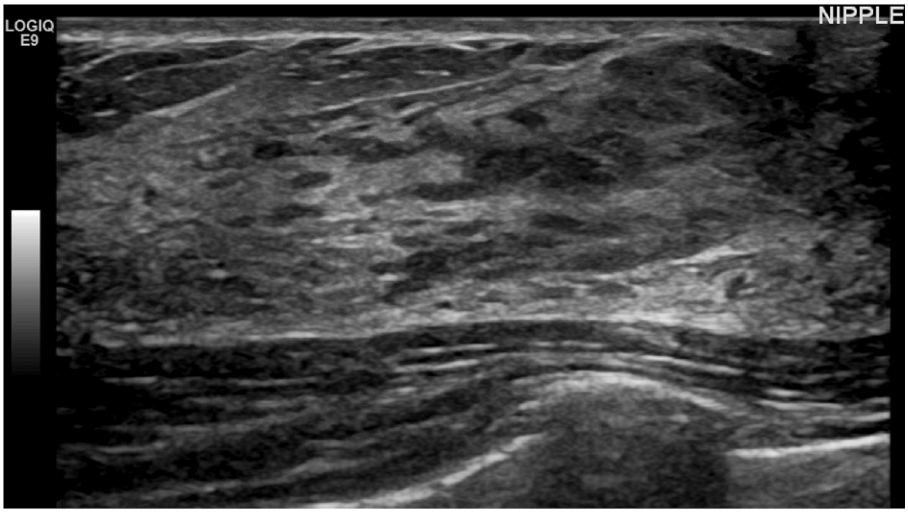

Fig. 1. Left breast ultrasound at subareolar area of reported pain: normal fibroglandular tissue throughout central and superior L breast, no masses or suspicious findings.

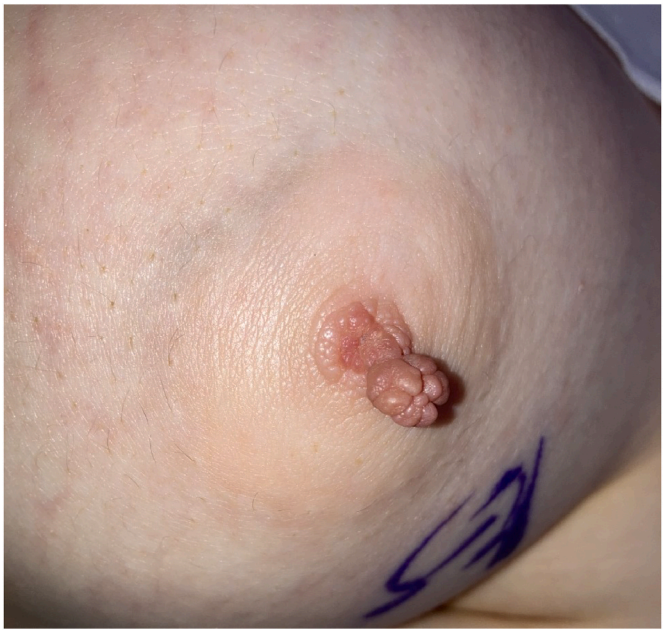

Fig. 2. Pre-operative photo of pedunculated, polypoid fibroepithelial polyp of Left nipple.

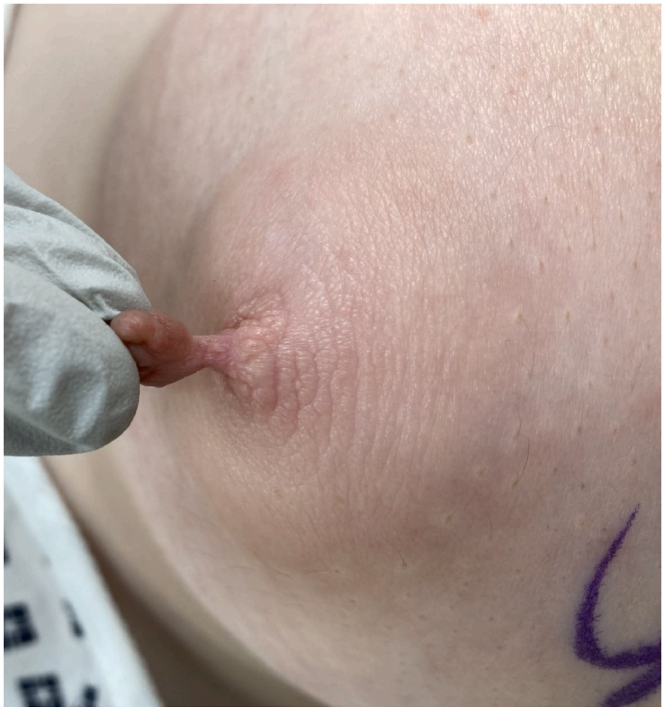

Fig. 3. Narrowed stalk of Left nipple lesion.

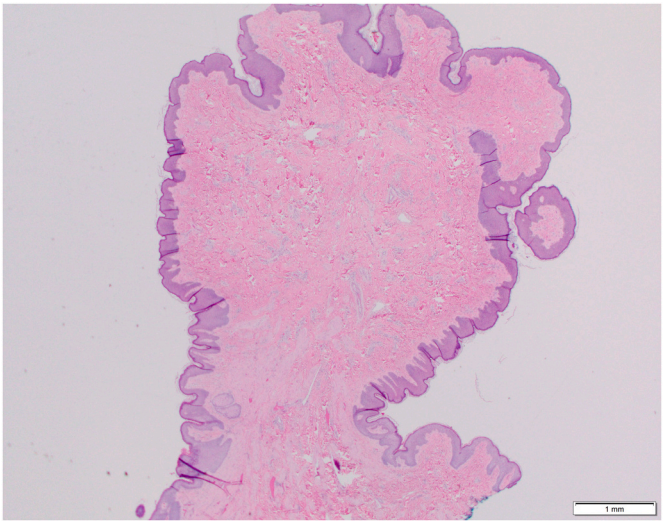

Fig. 4. Polypoid lesion covered by papillomatous epidermis, collagenous stroma with absence of skin adnexal structures, smooth muscle bundles of nipple seen at the base only, low power view, 20 mag.

3. Discussion

The FEP is a common benign tumor of mesodermal origin, which can be found on the neck and intertriginous areas such as the axilla, thighs, or perineum. In females, FEPs have been found on the vulva, but only eight cases have been documented on the breast to date [3–9]. As such, FEPs can be a diagnostic challenge due to the rarity of growth and the location. The differential for benign nipple lesions is wide and includes supernumerary nipple, neurofibroma, adenoma, papilloma, wart, milia, and epidermal cyst [10]. Entities such as adenomas, neurofibromas, pedunculated nevi, and FEPs present similarly on gross appearance and require histologic examination for definitive diagnosis.

Histologically, FEPs exhibit connective tissue with a layer of surrounding squamous epithelium. Our patient's FEP is consistent with this diagnosis given its collagenous stroma covered by papillomatous epidermis, lack of skin adnexal structures, and smooth muscle bundles corresponding to nipple tissue limited to the base of specimen. Benign tumors of the nipple are more common than

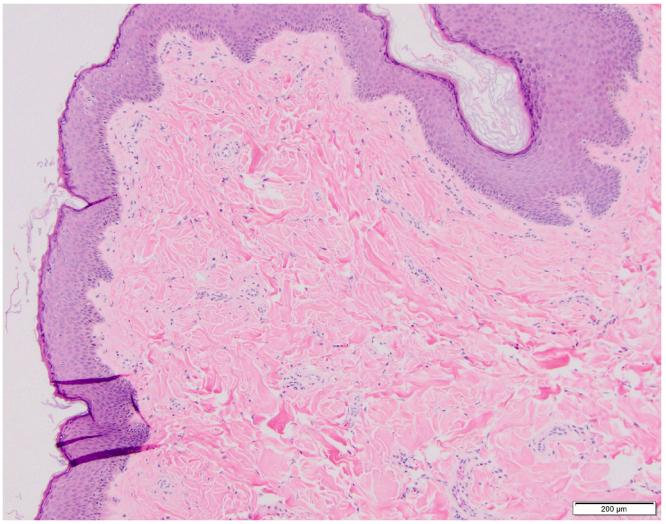

Fig. 5. High power view showing benign cytology of epidermis, paucicellularity of stroma, 100 mag.

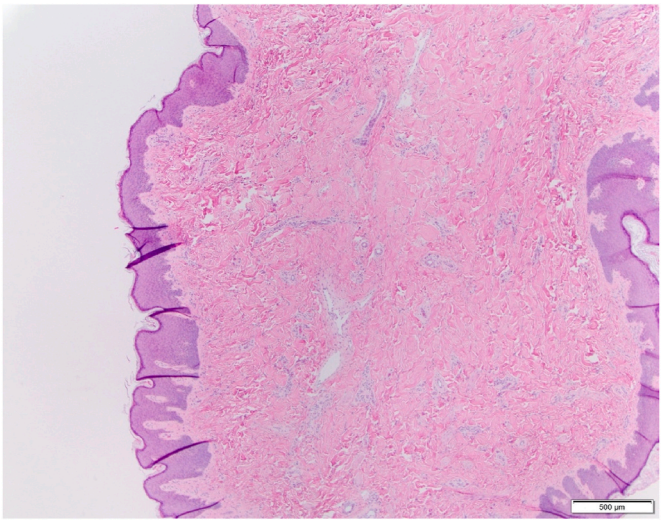

Fig. 6. Another high power view field showing few dilated blood vessels in the core of the polyp, 40 mag.

malignant lesions [10]; however, it is important for providers to recognize and diagnose benign lesions of the nipple, with appropriate referrals for adequate management.

As the incidence of FEPs and acrochordons increases with age [11], it is extremely rare to identify isolated skin growths in younger patients without specific genetic predispositions such as Peutz-Jeghers syndrome, neurofibromatosis, congenital skin hamartoma, Nevoid Basal Cell Carcinoma syndrome, or Birt-Hogg-Dubé syndrome. FEPs are often associated with conditions such as diabetes, obesity, pregnancy, and locations on the body which cause chronic irritation, such as flexural sites. Notably, we present the youngest documented case of an acquired, isolated FEP in a healthy pediatric patient. Given the anatomic location of the FEP and age of the patient, this is an unusual manifestation of FEP.

Although the size of our patient's polyp was small (8 × 6 mm), FEPs in general have been documented to grow over time if left untreated and can lead to poor cosmesis. A large FEP of the nipple was reported in a middle-aged woman noted to have begun developing in childhood, with a notable increase in diameter following lactation around age 20. Another case documented a FEP to grow as large as 12 × 7 cm in size [2], causing pain and poor aesthetic appearance. Had surgery been deferred in our patient, it is very likely that this lesion would have continued to grow had surgical intervention been deferred [4].

Management of FEP of the nipple includes simple excision and primary closure. Benefits of surgical excision include improved cosmesis, reduction of irritation and pain, and reassurance of the patient.

4. Conclusion

Fibroepithelial polyp of the nipple is a rare, but benign tumor that is adequately managed with surgical excision. With fibroepithelial polyps seldomly reported in the literature, it is important to differentiate this lesion from other benign and malignant growths.

Patient consent

Written informed consent was obtained from the patient's legal guardian for publication of this case report, including accompanying images and reports.

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Authorship

All authors attest that they meet the current ICMJE criteria for Authorship. All authors have read and approved the manuscript.

Disclosure statement

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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