



## Fibroepithelial Vaginal Polyps in a Newborn Female

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Vaginal fibroepithelial polyps in newborn females are rare. There are only 4 previously documented reports.<sup>1-4</sup> There have been no reported cases of a single infant with multiple broad-based polyps that were not amenable to full resection. All other reported cases of this particular disorder in the newborn period have been of a singular fibroepithelial vaginal polyp. In this case report, the diagnosis and management of a neonatal female with a rare type of interlabial mass is reviewed.

### CLINICAL CASE

A full-term female presented to the pediatric urology clinic at ten days of life with 2 polypoid vaginal masses emanating from the introitus. The mass was initially noticed by the parents on the second day of life and with subsequent enlargement over the following 3 days which prompted their pediatrician to refer to Pediatric Urology. The masses did not cause any abnormal vaginal discharge or bleeding and had no effect on urinary or bowel function. The pregnancy and delivery were uncomplicated with no known prenatal exposure to exogenous hormones or other teratogens. There was no family history of genitourinary anomalies or malignancies. On exam, the urethra was displaced anteriorly by a large polypoid lesion originating from the vagina (Fig. 1). Ultrasound and magnetic resonance imaging confirmed the origin of the circumscribed ovoid homogenous mass to be the distal

vagina protruding into the perineum, measuring 3.6 × 2.4 centimeters (Fig. 2).

The infant underwent cystoscopy and vaginoscopy under general anesthesia with incisional biopsy removing 1 cubic centimeter of tissue from each of 2 separate distal vaginal masses. These 2 masses were broad based lesions extending from the mid-to-distal vagina (Fig. 3 and Fig. 4 in supplementary material) and it was not feasible to completely excise both lesions without reducing vaginal caliber. There was a normal single cervix and no current bladder, urethral, or other vaginal anomalies were identified. Overall, the patient tolerated the procedure well and was kept for overnight observation due to her young age. Pain control was achieved with local vaginal biopsy site infiltration of 0.25% bupivacaine with postoperative oral acetaminophen. The vaginal packing was removed postoperative day 1 and bacitracin ointment was applied to the vaginal introitus twice daily for 1 week.

Pathological diagnosis confirmed multifocal fibroepithelial polyps (Fig. 5 in supplementary material). A baseline postoperative transabdominal pelvic ultrasound showed a residual 9 millimeter lesion in the distal vagina. Follow-up exams every 3 months during the first year, every 6 months during the second year, and annually thereafter were recommended to monitor for regrowth. There are no signs of vaginal obstruction and a patent hymen, without scarring or stricture, is seen. The child's only other health concerns included congenital hip dysplasia corrected with bracing and signs of peripheral estrogen effects including breast buds and prepubic velus hair growth in the first year of life with normal prepubertal estrogen and testosterone levels, and appropriate size ovaries on ultrasound without follicular development. Further excision or laser ablation options have been discussed with the parents and will be considered if the polyps grow, with preference given toward pubertal age treatment in the event that a buccal graft distal vaginal reconstruction and vaginal dilation are needed.

### DISCUSSION

The differential for an interlabial mass in a newborn includes several benign lesions as well as malignant sarcomas, including sarcoma botryoides. Fibroepithelial polyps

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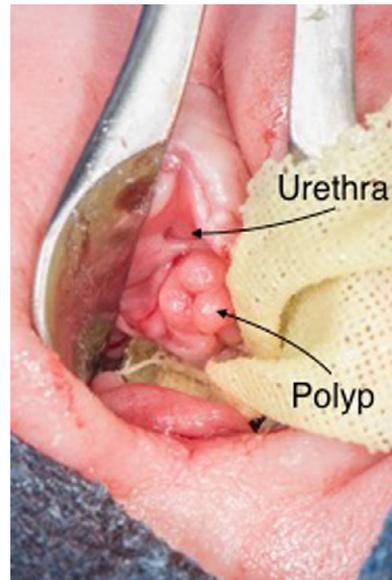
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**Figure 1.** Vaginoscopy demonstrating the size and broad base of the posterior polyp. (Color version available online.)



**Figure 3.** The anterior polypoid lesion that is anteriorly displacing the urethra. (Color version available online.)

are benign growths consisting of a fibrovascular core surrounded by stratified squamous epithelium (Fig. 5 in supplementary material). Gross examination can reveal a soft pedunculated polyp, a papillary lesion with finger-like



**Figure 2.** Pelvic magnetic resonance imaging revealed a 3.6 × 2.4 cm homogenous mass in the vaginal introitus without extension into adjacent organs.

projections, or a cerebriform mass.<sup>5</sup> Cytology consists of either mono- or multinucleated stromal cells that can be collagenous, myxoid, mixed, or atypical. Mast cells are frequently seen, a characteristic common to uterine fibroleiomyomas, and likely interact with stromal cells to induce vascular and cellular differentiation.<sup>6</sup> Immunohistochemical stains of these lesions typically show strong desmin and vimentin staining. Of particular interest, estrogen and progesterone receptor staining can be present in these lesions representing a hormonally-mediated component to the development of fibroepithelial vaginal polyps.<sup>7</sup> These lesions have been documented in older women with a mean age of diagnosis at about 40 years and are rare prior to menarche.<sup>5-8</sup> There have been no reports of malignant transformation of these polyps.

To our knowledge, there are 4 other reported cases of fibroepithelial vaginal polyps in newborn females and all were managed with local resection.<sup>1-4</sup> This is the only case of multiple polyps in a single patient is one of the largest total polyp burdens documented. Other reports describe pedunculated or distally-located polyps that permitted full resection. As in this case with multiple broad-based polyps, extensive resection can be problematic in a prepubertal child risking vaginal stenosis and need for introitoplasty or vaginoplasty at puberty.

Studies show the growth of these polyps is modulated by hormonal factors<sup>8</sup> thus future growth and the importance of ongoing follow-up must be stressed with families and primary care providers. Following a period of observation, delayed definitive resection can be accomplished with surgical excision or carbon dioxide laser treatment.<sup>9</sup> Thus, we recommend observation of larger lesions not amenable to initial ablation or excision until growth occurs. Rebiopsy should be performed if a provider is concerned a botryoid lesion has been missed or concerning features, such as ulceration, occur with time.

## CONCLUSION

Fibroepithelial vaginal polyps are benign and complete excision is typically curative.<sup>10</sup> Although uncommon, they should be in the differential for newborns with vaginal masses. Timing of complete excision should be

tailored to the extent of the lesion and age of the child. Although excision is still likely to be required secondary to hormonally-mediated growth, our experience suggests careful observation and planning are prudent with a large polyp burden. While prior case reports of complete excision with small tumor burdens are feasible in prepubertal girls, there is no definitive management strategy for larger polyp burdens in the younger pediatric population. We caution surgeons to consider the value of postponing definitive interventions in patients with similar benign lesions and considering a more conservative approach in these rare conditions.

## SUPPLEMENTARY MATERIALS

Supplementary material associated with this article can be found in the online version at <https://doi.org/10.1016/j.urology.2019.06.026>.

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