Tubulo-squamous vaginal polyp with basaloid features. Case report

Michal Zámečník [1,2], Davorín Dibák [3]

[1] Medicyt a.s., Laboratory of Surgical Pathology, Trenčín, Slovak Republic
[2] Agel, a. s., Laboratory of Surgical Pathology, Nový Jičín, Czech Republic
[3] Department of Obstetrics and Gynecology, Faculty Hospital, Trenčín, Slovak Republic

A rare case of tubulo-squamous polyp of the vagina (TSP) with basaloid features is described. A 9 mm polyp occurred in 65-ys-old woman, and it was located in the lower lateral part of the vagina. Histologically, it was composed of bland basaloid and basosquamous appearing nests with exceedingly rare small tubules, and its morphology resembles that of adenoid basal epithelioma of the cervix. The epithelium of the lesion was fully negative for p16 and p53. The tubules and isolated rare cells of the basaloid epithelium expressed prostate marker NKX3.1. The stroma of the lesion was cellular myofibroblastic, resembling pattern of myofibroblastoma, angiomyofibroma or myoid stroma in prostatic nodular hyperplasia. Its immunophenotype was desmin+/CD34+/actin+/PT+/ER+/AR+/RB1+. Our case supports the view that tubulo-squamous polyp of the vagina and p16-negative adenoid basal epithelioma could be interrelated from histogenetic point of view.

Keywords: tubulo-squamous polyp, vagina, adenoid basal epithelioma, adenoid basal carcinoma, NKX3.1, angiomyofibroblastoma, myofibroblastoma

Abstrakt

Prezentovný je zriedkavý prípad vaginálneho tubuloskamózneho polypu s bazaloidnou morfológiou. Jednalo sa o 9 mm-ový polyp dolnej laterálnej časti vagíny u 65-ročnej ženy. Histologicky bol tvorený blandnými bazaloidnými a bazoskvamóznymi skupinami buniek, s veľmi ojedinelými a nenápadnými tubulmi. Morfológia lézie napodobňovala adenoidne bazálny epitelióm cervixu uteru. Tubuly a izolované bunky bazaloidného epitelu exprimovali prostatický markeer NKX3.1. Epitel lézie bol negatívny na p16. Stróma bola celulárna myofibroblastická, fokálne vaskularizovaná, čím pripomínala angiomyofibroblastóm, myofibroblastóm alebo myoidnú strómu prostatickej nodulárnej hyperplázie. Imunofenotyp tejto strómy bol desmin+/CD34+/actin+/PT+/ER+/AR+. Prezentované pozorovanie, spolu s niekoľkými predchádzajúcimi už publikovanými ukazujú, že tubuloskvamózny polyp vaginy a p16-negatívne „adenoid basal“epiteliómy môžu maťspoločnú histogenézu.

Kľučové slová: Tubuloskvamózny vaginálny polyp s bazaloidnou morfológiou. Popis prípadu

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Introduction

So called tubulo-squamous polyp of the vagina (TSP) was described in 2007 by McCluggage and Young (1). The lesion occurs in upper part of the vagina in postmenopausal women or in lower part of the vagina in premenopausal patients (1-3). The lesion shows focal prostatic differentiation that is probably related to so-called female prostate, a glandular structure termed traditionally as Skene's periurethral glands (4,5). Histologically, TSP typically consists of bland squamous cell nests with small tubules and cysts. There were described some unusual features such as sebaceous differentiation or mucinous and goblet cell differentiation (6,7). In 2009, Stewart described an interesting case of TSP, in which the cell nests showed proliferative basaloid morphology that had resembled low-grade adenoid basal carcinoma (epithelioma) (8). Further similar case was added by Kazakov et al. in 2010 (9). To our knowledge, no additional case was reported till now. Recently we have seen in our practice basaloid TSP. We would like to present this case here.

Case report

In a 65-ys-old, para 2, gravida 3, postmenopausal patient, a cervical polyp was found by cervical screening examination. The polyp measured 9 mm, and it was located in lower left lateral part of the vagina. Medical history of the patient includes one misssed abortion and three fractional curretages for benign irregular endometrium a long time ago. Otherwise, her medical history was unremarkable. An excision of the polyp was performed, and the tissue was submitted for histologic examination.

Histologically, the polyp consisted of basaloid and basosquamous appearing nests of epithelium (figure 1). The superficial squamous epithelium appeared hyperplastic, and it was connected focally with basaloid lobules of the lesion. Very rare tubular structures with cuboidal epithelium were found inside basaloid nests and

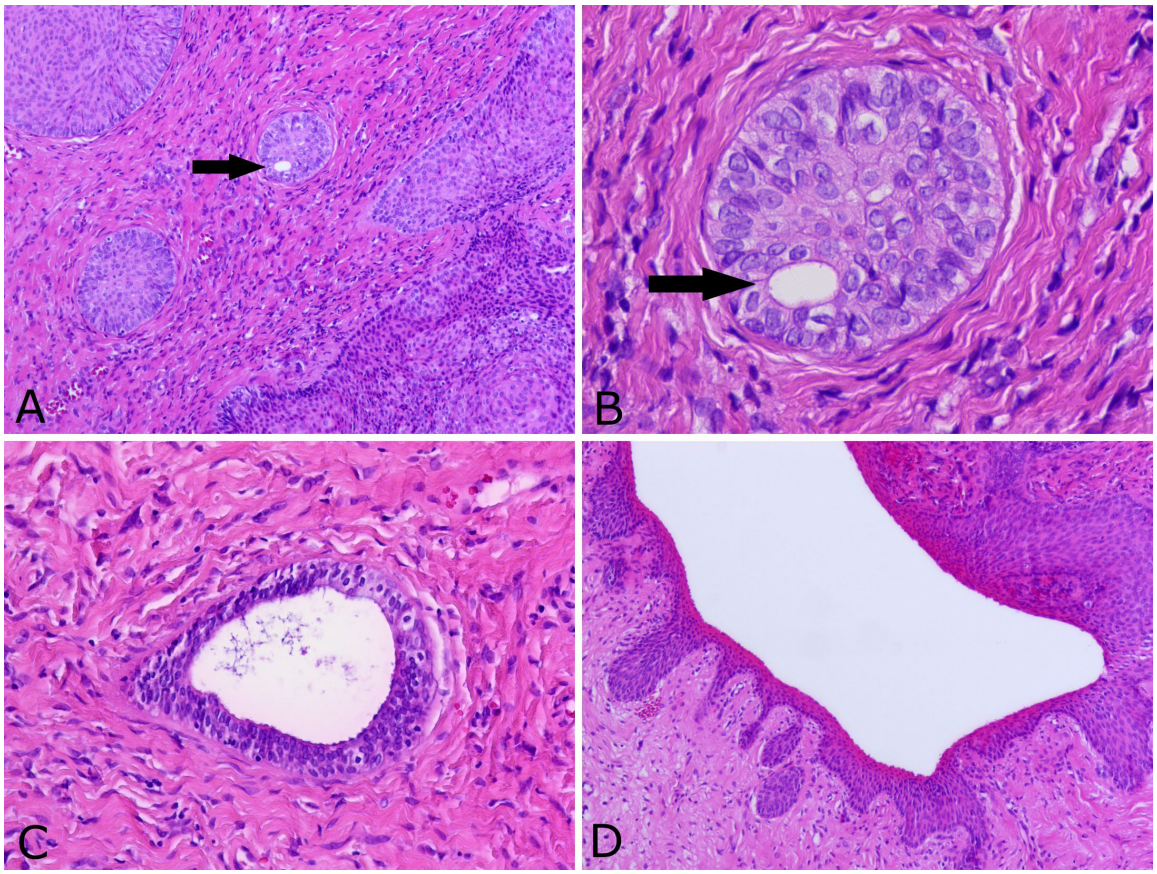

Figure 1. Tubulo-squamous vaginal polyp. **A** shows basaloid and basosqamous appearing nests of the epithelium. In one nest, a small tubule is seen (arrow). **B** depicts the tubule in the cell nest (arrow). **C** rare isolated tubule in the stroma. **D** shows periphery of the lesion. Adjacent mucosa (left part of the picture) contained basal cell proliferations which represent probably an early lesion.

in the stroma (figures 1B and 1C). They were small and quite inconspicuous. Adjacent epithelium showed focal basal cell proliferation suggesting that it is probably early stage of the lesion (figure 1D). The stroma of the polyp appeared myofibroblastic, focally with numerous small vessels (angiomyofibroblastoma-like) (figure 1E). Mitoses and nuclear atypia were not found.

Immunohistochemically (figure 2), prostatic marker NKX3.1 (EP356, Biocare Medical) was positive in scarce tubules and several isolated cells of the epithelium. It was negative in adjacent epithelium, including small foci of basal cell hyperplasia. The epithelium of the lesion showed strong expression of estrogen receptor (ER) (EP1, Dako) but this positivity was absent in small tubules. Expression of androgen receptor (AR) (AR441, Dako) was mild and it was fully negative in tubules. Progesterone receptor (PR) (R1294, Dako) was completely negative in the epithelium. MIB1 showed low proliferation. The stroma was positive for desmin, alpha-smooth muscle actin, CD34, ER, PR, AR and RB1 (all from Dako). In contrast with strong desmin expression, the stroma of adjacent vaginal mucosa was fully desmin-negative, and it was otherwise positive for all above-mentioned stromal expressions (alpha-smooth muscle actin, CD34, ER, PR, AR and RB1).

Discussion

The present case of TSP is similar to those described by Stewart and by Kazakov et al. (8,9). The predominance of basaloid pattern caused resemblance with adenoid-basal carcinoma (ABC). After Stewart found this basaloid morphology in TSP, studies of expression of prostatic markers were performed in cases of ABC and they found positivities of prostatic markers in many of these tumors (5,10). The authors suggest that at last cases of ”pure“ ABC (especially HPV-independent cases) represent prostatic type lesion that is related to TSP or to basal cell hyperplasia of the male prostate. It can explain indolent behavior of majority of pure ABCs. For the reason of good prognosis, some authors prefer to name the tumor as adenoid basal epithelioma (ABE) rather than carcinoma (8,11,12), and we concur with this opinion (13).

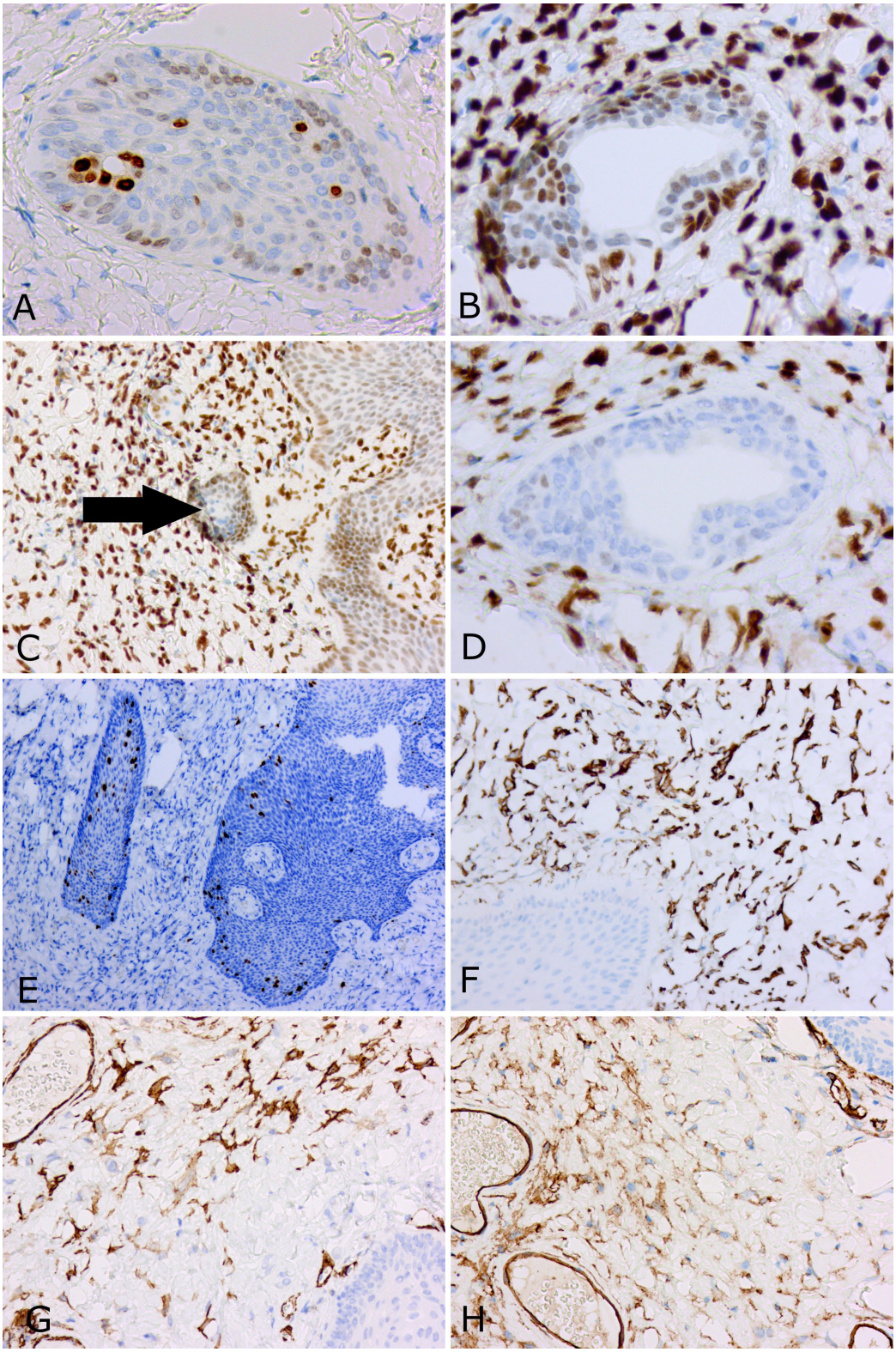

Figure 2. Immunohistochemical features. Panel **A** shows expression of NKX3.1 in the tubule and in scarce isolated cells. **B** demonstrates ER positivity and its absence in cuboidal cells of tubule. **C** shows AR negativity in the tubule (arrow). **D** expression of PR is limited to the stromal cells. **E** low proliferation of the lesion demonstrated by MIB-1 immunostaining. **F** desmin positivity in the stroma is strong and diffuse. **G** expression of alpha-smooth muscle actin. **H** shows moderate CD34 positivity in the stromal cells.

Immunohistochemically, TSP typically express prostate marker NKX3.1 in the small tubules, as seen in our case. The tubules were quite inconspicuous and scarce, and therefore immunohistochemistry for NKX3.1 was very usually positive in TSP. In our case we have seen expression of ER and AR in the basaloid/basosquamous epithelium, with absence of the staining in tubules. P16 is typically negative in TSP as it was in present case. It proves HP-independent genesis of this lesion. AR positivity can be interpreted as a demonstration of male type differentiation of the tissue, i.e. that the cells are capable to react on androgen stimuation. It is known that testosterone therapy stimulates prostatic differentiation in transmasculine individuals (14,15).

We think that prostate type differentiation can apply not only to the epithelium, but also to the stroma of TSP. In our case, the stroma was myofibroblastic and focally it contained numerous small vessels. It expressed myoid markers, CD34 and AR, and it resembled stroma of prostatic nodular hyperplasia. This stroma differed from desmin-negative subepithelial stroma in adjacent normal mucosa. Recently Vasallo et al. (16) described in their case of TSP a prominent myofibroblastic stroma which they termed “angiomyofibrolastoma-like“, and we think that this morphology was quite similar to that seen in our case. Eleven years ago, we have described unusual case of prostate type lesion which we considered myofibroblastoma with prostate type glands (17). We speculate currently that the case could represent prostate type lesion (nodule) with tumor-like hyperplasia of the myofibroblastic stroma. However, this unusual case expressed also mammary markers and thus it remains still enigmatic from histogenetic point of view. We think that thorough study of the stroma in additional cases of TSP as well as in p16-negative ABEs is necessary for better knowledge of these lesions.

In sum, we described unusual TSP with basaloid differentiation. The features of basaloid TSP resembles those of ABE. This morphology supports the opinion that at least some ABEs (particularly small lesions with p16 negativity) shares histogenesis with TSP. For diagnosis of basaloid TSP a proof of prostatic differentiation with immunohistochemistry is important.

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Michal Zámečník, MD
Medicyt, a. s., lab. Trencin
Legionarska 28, 91171 Trencin
Slovak Republic
zamecnikm@seznam.cz