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CASE REPORT

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Blue nevus of the endocervix

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The mucosa of the uterine cervix is normally devoid of melanocytes; therefore, melanin-containing lesions are very rare in this site. A new case of a common blue nevus in the cervix of a 57-year-old woman is reported. The lesion was an incidental finding in a total hysterectomy specimen performed for atypical endometrial hyperplasia. Gross and histological examination revealed minute dark macula on the mucosa of the posterior aspect of the endocervical canal, composed of loose conglomerates of spindle-shaped and dendritic cells located superficially within the stroma, containing multiple brownish granules, which exhibited positive immunostaining for HMB45 and melan A. Although the blue nevi seem to be lesions of low clinical significance, they require careful differential diagnosis with malignant melanoma, especially in scanty endocervical curettage or cervical biopsy specimens. (Folia Morphol 2010; 69, 1: 62–64)

Key words: melanocytic nevus, melanocyte, uterine cervix

INTRODUCTION

Blue nevi are a distinct type of benign melanocytic skin lesions, usually composed of spindle-shaped, dendritic pigmented melanocytes [2]. However, they have occasionally been revealed in some ectopic sites such as the vagina, uterine cervix, prostate, spermatic cord, oral mucosa, maxillary sinus, oesophagus, and lymph nodes [4, 14]. The uterine cervix seems to be the most common extradermal location [10].

Cervical blue nevi are asymptomatic. Because they usually present as small (< 0.5 cm) and solitary blue or blue-gray maculae of the endocervical canal [3, 4, 6–10, 12, 13], cervical blue nevi are incidental findings in hysterectomy specimens or, rarely, in specimens obtained during more conservative diagnostic or therapeutic procedures (e.g., cone biopsy, curettage).

In the current paper, a new case of the cervical blue nevus is presented.

CASE PRESENTATION

A 57-year-old woman (gravida II, para II, last menstruation in September 2006) presented with 2-week postmenopausal uterine bleeding. Histological examination of the endometrial curettage revealed atypical endometrial hyperplasia; as a result, a total hysterectomy with bilateral salpingo-oophorectomy was performed in the Gynaecological Unit of the District Hospital in Świdnik in June 2007.

A routine histological examination of tissue samples taken from the surgical specimen confirmed the initial diagnosis, as well as the presence of a 1 cm-long endocervical polyp and two subserosal and one intramural leiomyomas of the uterine corpus, 0.8–2 cm in size. Unexpectedly, a single, minute (0.3 cm), dark macula was found on the mucosa of the posterior aspect of the endocervical canal about 0.7 cm proximally to the squamo-columnar junction. The lesion was composed of loose conglomerates of

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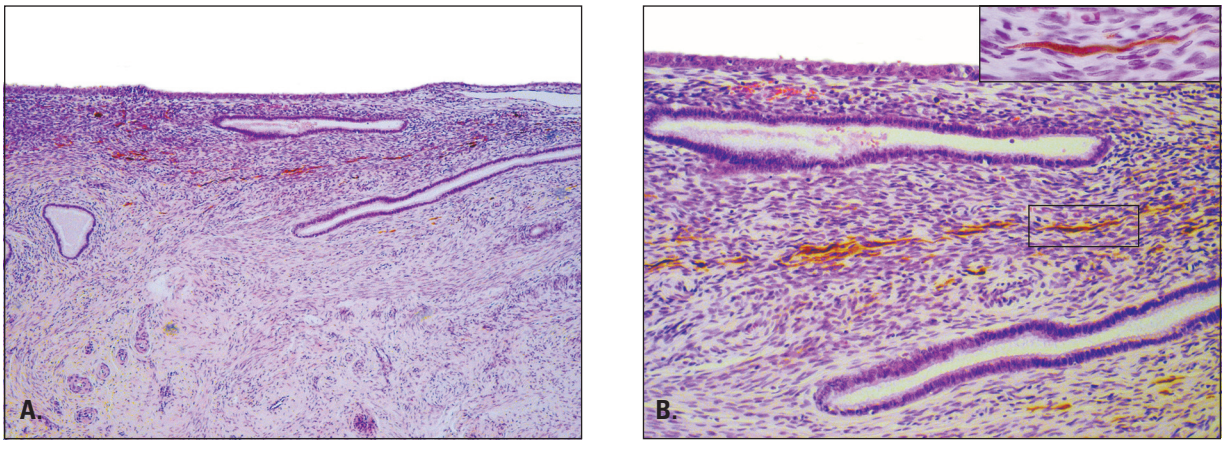

Figure 1. Blue nevus of the endocervix. Spindle-shaped, heavily pigmented melanocytes located superficially within the stroma and oriented mostly parallel to the surface epithelium (haematoxylin and eosin; objective magn. **A.** 5 ×; **B.** 10 ×; islet: 40 ×).

spindle shaped, dendritic cells located superficially within the endocervical stroma (Fig. 1A, B). Most of them were oriented parallel to the surface epithelium or surrounded endocervical glands. The thickness of the lesion was 0.04 cm. The cells contained round to oval regular nuclei with inconspicuous nucleoli with no features of atypia. The cytoplasm was filled with multiple small brownish granules (Fig. 1B). The granules were Prussian blue-negative. However, they exhibited positive immunostaining for HMB45 and melan A (antibodies and visualization system — EnVision^{TM+}/HRP from DakoCytomation, Denmark). Neither melanocytes nor melanin pigment accumulation in the surface epithelium was observed. On the basis of these features, endocervical blue nevus was diagnosed.

DISCUSSION

The uterine cervix mucosa is normally devoid of melanocytes. For this reason, melanin-containing lesions such as melanosis [5], lentigo simplex [11], blue nevi [3, 4, 6–10, 12–14], and malignant melanoma [1] are very rare in this site. A few hypotheses concerning the histogenesis of cervical blue nevi have been postulated. The most widely accepted theory is that they originate from melanoblasts that aberrantly migrate from the neural crest to the cervix during embryogenesis. Nevertheless, "melanogenically-transformed" Schwann and perineural cells of cervical nerves or even stromal cells cannot be excluded [10, 12, 13]. Ultrastructural studies of the blue nevi partly support both hypotheses. All of the authors revealed melanosomes in various stages of maturation in nevus cells as features of melanocytic differentiation [4, 6, 9, 10, 12–14]. However, plasmalemmal interdigitations, basal lamina around cell bodies, tight cell junctions, and mesaxon-like structures indicating Schwannian differentiation have also been noted [4, 6, 9, 10, 13]. Regardless of origin, the majority of cervical blue nevi, including the currently presented case, are found in the fifth to the sixth decade of life; therefore, it is very likely that hormonal imbalance, typical of a climacteric period, could be a factor activating melanogensis or melanocytic differentiation [12, 13].

Cervical blue nevi are thought to be rare lesions. However, because most descriptions came from case reports [4, 6–9, 14], their real incidence is hard to evaluate. In a few serial studies, blue nevi have been found in 0.12–1.9% of cases [3, 10]. In a detailed histological examination of step sections from the uterine cervices followed by Fontana-Masson staining for detection of melanin granules, Uehara et al. [12, 13] revealed clusters of stromal melanocytes in as many as 8.9–28.6% of specimens obtained from Japanese women. The authors suggested race differences in the prevalence of the nevi. Furthermore, they regarded their findings and the majority of the previously reported cervical blue nevi as lesions more similar to dermal melanocytosis, such as nevi of Ota, Ito, or mongolian spot, than to the typical cutaneous blue nevi. Indeed, the lesions are usually composed of relatively sparse cells with an expansile growth pattern and lack of nodule formation. Therefore, Uehara et al. [12, 13] proposed the term "stromal melanocytic foci" as a more accurate depiction for this unusual histological change.

Although, co-existence of cervical blue nevus and vulval malignant melanoma has been reported [7], the association of both lesions in the uterine cervix

has not been proven. For that reason, cervical blue nevi seem to be histological findings of low clinical significance. Despite this fact, these nevi require careful differential diagnosis with primary or metastatic malignant melanoma described occasionally in analogous locations [1], especially in scanty endocervical curettage, cervical biopsy, or cervical cone biopsy specimens.

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