AMJ
ISSN: 0005-2523

ISSN: 0005-2523
Volume 62, Issue 06, August, 2022

Evaluation of the literature with a rare case. Can they really be important? Cervical Blue Nevus

Gulchin Babayeva[1], Yunus Emre Purut[1], Serap Koch[1]

Private Hospital Gaziosmanpaşa, İstanbul[1]

Keywords:
pigmented lesions, cervical lesions, desmosome-like devices

ABSTRACT

Blue nevi are a subset of melanocytic proliferations of embryonic neural crest origin containing cells similar to dendritic melanocyte precursors. Cervical Blue Nevi are benign pigmented melanocytic lesions that are rarely detected and usually seen in middle-aged women. It has various shapes such as dentridic, spindle-shaped, oval or polyhedral forms. Blue or blue-black macules or papules are common on the dorsal hands and feet, neck, and trunk [1]. Also, interestingly, in other places where melanocytes do not exist. It can also be found; in oral mucosa, sclera, uterine cervix, vagina, prostate, spermatic cord, pulmonary hilus, conjunctiva, maxillary sinus, mammary lymph nodes [1], [2]. In female genital tracts, it most commonly occurs in the uterine cervix. It is usually detected incidentally on microscopic examinations. Clinically, it can be seen as a blue-black spot on the posterior wall of the cervix. Various authors have described these lesions as <0.5 cm small and solitary blue-black macules on the endocervix. Here, we presented the histopathological features and differential diagnosis of a blue nevus detected in the pathology material after hysterectomy in a 43-year-old patient, on examples from the literature.

1. Introduction

Blue Nevi are a subset of melanocytic proliferations of embryonic neural crest origin containing cells similar to dendritic melanocyte precursors. They are benign pigmented melanocytic lesions that are rarely detected and usually seen in middle-aged women. It has various shapes such as dentridic, spindle-shaped, oval or polyhedral forms. Blue or blue-black macules or papules are common on the dorsal hands and feet, neck and trunk [1]. Also, interestingly, in other places where melanocytes do not exist; It can also be found in oral mucosa, sclera, uterine cervix, vagina, prostate, spermatic cord, pulmonary hilus, conjunctiva, maxillary sinus, mammary lymph nodes [1], [2]. In female genital tracts, it most commonly occurs in the uterine cervix. It is usually detected incidentally on microscopic examinations. Clinically, it can be seen as a blue-black spot on the posterior wall of the cervix. Various authors have described these lesions as <0.5 cm small and solitary blue-black macules on the endocervix.

In our study 43-year-old patient was referred to our outpatient clinic with complaints of abnormal uterine bleeding and hypermenorrhea. The endometrial thickness was measured as 11 mm in the transvaginal

examination performed due to the patient's previous history of breast cancer. Tumor markers were normal. The smear result of the patient was normal and the HPV DNA test was negative.

2 cystic lesions, approximately 3x2 cm in size, were observed in the left ovary. The right adnexal area was normal. No vaginal or cervical pathology was found in the macroscopic observation. Surgery was planned for the patient. The preoperative endometrial biopsy result was reported as endometrial hyperplasia without atypia. The preoperative pelvic MRI result of the patient was evaluated as normal, 2 cystic lesions of approximately 3x2 cm in size in the left ovary were confirmed, and it was reported as compatible with Naboth cysts at the cervix level. No pathology was detected in the lesions after IVCM. The patient underwent total abdominal hysterectomy and left unilateral salpingoophorectomy (TAH-USO).

No abnormality was found in the pathological macroscopic examination of the patient's TAH-USO material. The longitudinal axis of the uterus was 7 cm, the transverse measurement was 6 cm, and the antero-posterior measurement was 4 cm. Cervix size was reported as 3x2.5 cm. Left ovary and left tuba were evaluated as normal.

During the macroscopic evaluation of the postoperative material, no pathology was found, and in the microscopic evaluation, in addition to Nabothian cysts in the cervix sections, melanocytes with dendritic extensions without mitosis and atypia were found scattered in 0.5 cm in the cervical stroma. This situation was interpreted histopathologically in favor of Cervical Blue Nevus.

2. Material and methods

Red chromogen dye was used to draw attention to melanin pigment in all immunohistochemical staining. Identification was made for dendritic melanocytes using positive S100, HMB45 and melanin staining (Masson Fontana). Paraffin blocks were deparaffinized, rehydrated and fixed with universal fixators and osmium tetraxid. The tissue was thus prepared. After cutting according to standard procedures, it was evaluated under an electron microscope.

Histologically, the lesion was limited to the endometrial stroma. Pigmented cell clusters were located parallel to the surface epithelium and around the endocervical glands. The cytoplasm of these cells contained fine dark brown granules. They had oval nuclei containing homogeneous chromatin and inconspicuous nucleoli. Mitosis or atypical cells were not seen.

Cytoplasmic reflection gave these cells a dendritic or spindle-shaped form. No pigmentation or basal melanocyte proliferation was observed in the endocervical epithelium. The endocervical epithelium appeared to be preserved. Pigmented cells were melanin positive and iron negative. Immunohistochemically, S100 and HMB45 were positive. Electron microscopy revealed premelanosomes and melanosomes in these cells. These characteristic features are similar to the findings in previous studies.

AMJ
ISSN: 0005-2523
ISSN: 0005-2523
Volume 62, Issue 06, August, 2022

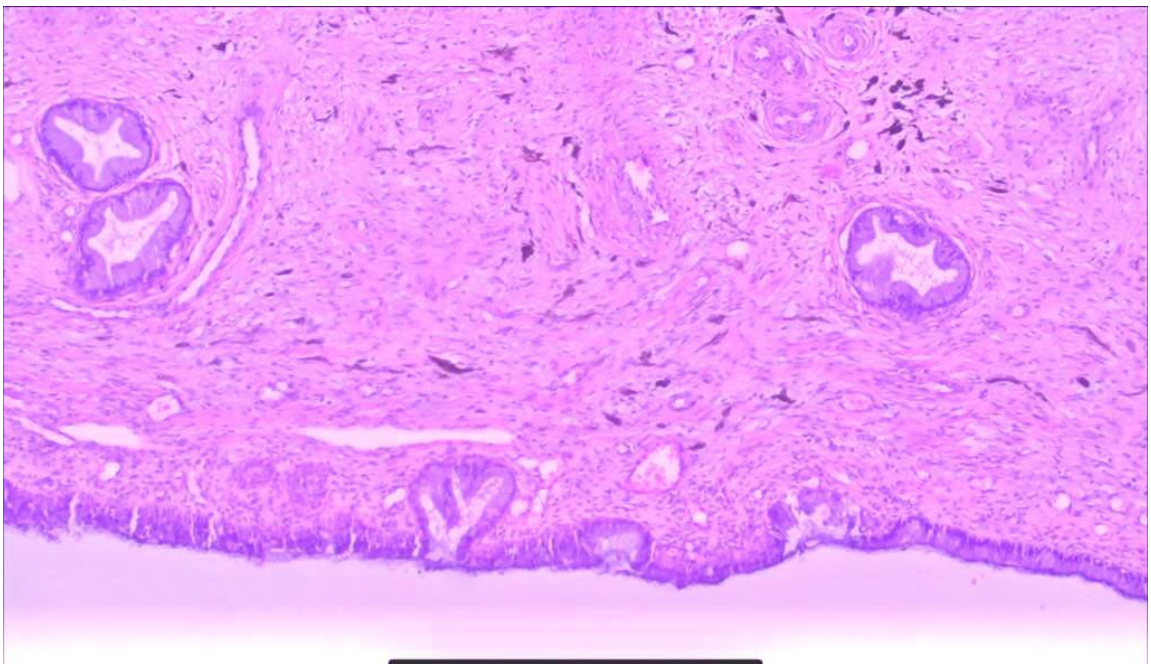

Figure 1: Dendritic cell clusters loaded with brown pigment within the superficial endocervical stroma and between endocervical glands (H&Ex100)

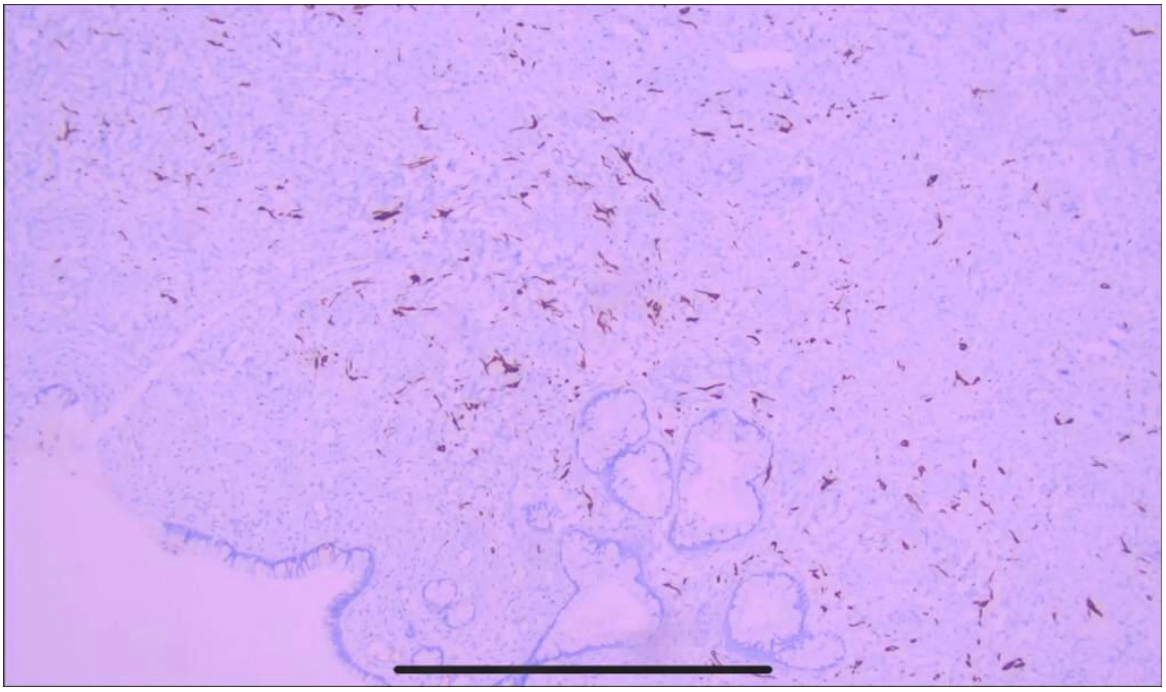

Figure 2: Pigmented black staining with Masson Fontana paint (Masson Fontana x200)

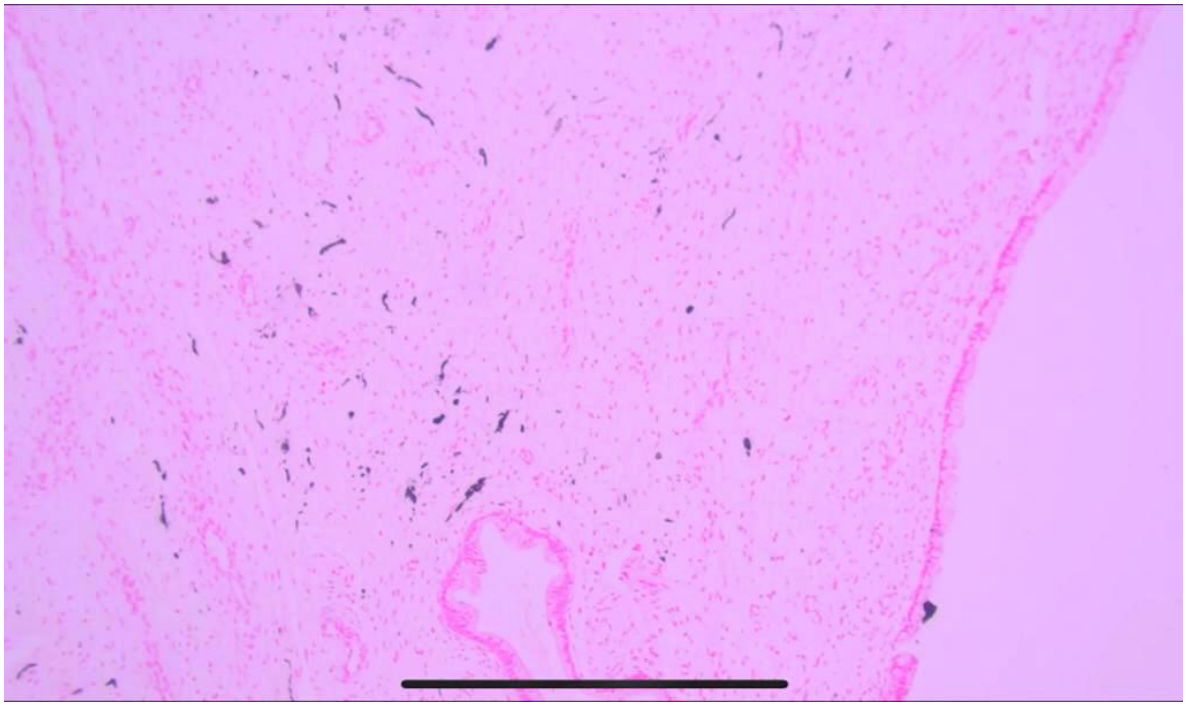

Figure 3: Positive immune reactivity with melanocytes in pigment-loaded cells (melanocytex100)

3. Discussion

Since the cervical mucosa is devoid of melanocytes, melanocytic lesions are not generally encountered in the cervix [2]. About 75 cases of cervical blue nevus have been reported so far. Most of these cases were found in patients between the ages of 50 and 60 [3]. The reason why it is detected at these ages may also be that hysterectomy surgery is mostly performed at these ages and it was detected incidentally in the specimen.

These benign lesions have not been reported to exhibit aggressive behavior. These lesions, which are overlooked macroscopically, are often located on the posterior wall of the endocervix [4]. Immunohistochemical demonstration of S-100 protein supports both melanocytic and schwannian differentiation of blue nevus cells. It is a structure consisting of melanosomes surrounded by a basement membrane ultrastructurally [5].

The first histologically examined case was reported by [6]. In this study, a case of blue nevus within the endometrial polyp in the non-neoplastic endometrium was reported for the first time. The second case was found in the endometrium of 38 elderly women by [7].

In Japan, [8], defined extracutaneous blue nevus as 'Stroma Melanocyte Foci' (FSM). According to them, the macroscopic and histological findings were more appropriately named stromal melanocytosis because the FSM of the cervix was more similar to dermal melanocytosis rather than cutaneous blue nevus.

In a case report reported by [9], information was given about the simultaneous endometrioid adenocarcinoma in a patient with blue nevus in the cervix and endometrium. In this study, the result of hysterectomy performed on the detection of endometrioid carcinoma in a 58-year-old patient who underwent endometrial biopsy with the complaint of abnormal uterine bleeding is explained. Single or small clusters of short spindle-shaped cells containing melanin without atypia were observed in the stroma of the endometrium in non-neoplastic parts. The same cell group was also found in the cervix, and the

ISSN: 0005-2523
Volume 62, Issue 06, August, 2022

histopathological diagnosis was reported as endometrioid adenocarcinoma concurrent blue nevus. This case is a case with simultaneous blue nevus in the endometrium and cervix in the literature.

The pathogenesis of blue nevus in the genital tract remains unexplained. The origin of pigmented melanocytes in the cervix was summarized by [10]. Three theories have been proposed for the condition: 1. irregular migration of neural crest elements, of which melanocytes are part of choriostomes; 2. migration of melanocytes from adjacent mucocutaneous spaces; 3. the emergence of melanocytes as part of the epidermidization of the cervical epithelium as a result of a local pathological process such as chronic irritation, uterine prolapse, or cryotherapy.

Cervical Blue Nevus (CMN) can be confused with cervical endometriosis, hemangioma, focal hemosiderin deposits, melanosis, lentiginous melanocytic lesions, cellular MN and malignant melanoma colposcopically, macroscopically and histologically.

[11] reported a primary cervical malignant melanoma case with negative anti-S-100 staining of the cervix. It was emphasized that primary malignant melanoma detected in a 68-year-old patient could be included in the differential diagnosis with blue nevus. Since the biological behavior of melanosis is unpredictable, it is essential that all cases detected by colposcopic biopsy or routine biopsy be followed up regularly. Lentiginous melanocytic lesions in the cervix, which are very rare, are characterized by proliferation of basal melanocytes [12], [13]. In our case, proliferation of melanocytes was not observed.

Cellular Blue Nevus has not been found in the cervix, and this lesion is characterized by proliferation of melanocytes from the dermis to the subcutaneous tissue. In our case, melanocytes were superficial [13].

Endometriosis ranges in size from 0.2-2 cm and is in the form of red-blue macules or plaques. Hemangiomas are red-purple colored lesions that fade with pressure. They can be easily distinguished from Blue Nevus by their histopathological appearance.

It is of great importance that the potential for malignant transformation is uncertain, as there is not enough data in the literature on Blue Nevus cases. Regardless of the theory of formation, all pigmented lesions of the cervix identified on colposcopy should undergo histopathological evaluation to rule out malignancy.

4. References

[1] Craddock, Kenneth J., Bizhan Bandarchi, and Mahmoud A. Khalifa. "Blue nevi of the Müllerian tract: case series and review of the literature." Journal of lower genital tract disease 11.4 (2007): 284-289.

[2] Szumiło, J., et al. "Blue nevus of the endocervix." Folia morphologica 69.1 (2010): 62-64.

[3] Donofrio, V., et al. "Blue nevus of the uterine cervix." Pathologica 84.1092 (1992): 539-545.

[4] Patel, Devbala S., and Belur S. Bhagavan. "Blue nevus of the uterine cervix." Human pathology 16.1 (1985): 79-86.

[5] Deb, Prabal, and AG BHOPTE D SWARUP. "Blue nevus of the uterine cervix." Medical Journal, Armed Forces India 56.4 (2000): 342.

[6] Babes, A. "Cellules pigmentaires rameuses dans un polype de la muqueuse uterine." Ann Anat

Pathol 4 (1927): 373-378.

[7] Shintaku, Masayuki, Kohji Tsuta, and Tsunekazu Matsumoto. "Blue nevus of the endometrium." International journal of gynecological pathology 22.3 (2003): 294-296.

[8] Uehara, Toshitaka, et al. "Foci of stromal melanocytes (so-called blue naevus) of the uterine cervix in Japanese women." Virchows Archiv A 418.4 (1991): 327-331.

[9] Ishida, Mitsuaki, et al. "Endometrioid adenocarcinoma concurrent with a blue nevus of the endometrium and uterine cervix: A case report." Oncology letters 6.5 (2013): 1219-1221.

[10] Vezzani, M. "La pigmentazione melanica dell'epitelio dell'esocervice." (1979).

[11] Clark, Katherine C., William R. Butz, and Marc R. Hapke. "Primary malignant melanoma of the uterine cervix: case report with world literature review." International journal of gynecological pathology: official journal of the International Society of Gynecological Pathologists 18.3 (1999): 265-273.

[12] Bhat, Shaila Talengala, Archana Shivamurthy, and Anuradha Calicut Kini Rao. "Incidentally detected blue nevus of endocervix: a case report." Iranian journal of pathology 10.3 (2015): 248.

[13] Zevallos-Giampietri, Eduardo-Alfredo, and Carlos Barrionuevo. "Common blue nevus of the uterine cervix: case report and review." Applied Immunohistochemistry & Molecular Morphology 12.1 (2004): 79-82.