Int J Clin Exp Pathol 2013;6(9):1961-1963
www.ijcep.com /ISSN:1936-2625/IJCEP1307023

Letter to Editor

The first reported case of pigmented Bartholin duct cyst

Mitsuaki Ishida, Muneo Iwai, Keiko Yoshida, Akiko Kagotani, Hidetoshi Okabe

Department of Clinical Laboratory Medicine and Division of Diagnostic Pathology, Shiga University of Medical Science, Shiga, Japan

Received July 14, 2013; Accepted August 7, 2013; Epub August 15, 2013; Published September 1, 2013

Bartholin duct cyst is a relatively common benign lesion occurring in the labia minora and is of urogenital sinus origin [1, 2]. Bartholin duct cysts arising from the main duct are lined by urothelial or squamous epithelium, whereas those originating from an acinus are covered by mucinous columnar epithelium [1, 2]. Albeit extremely rare, pigmentation in an external genital cyst, such as median raphe cyst, has been reported [3, 4]. However, presence of melanocytes or melanin pigment in the cyst wall of Bartholin duct cysts has not yet been documented. Herein, we report the first case of pigmented Bartholin duct cyst.

A 41-year-old Japanese female presented with an asymptomatic nodule in the external genitals, which had been noticed several years earlier. Physical examination revealed a well-circumscribed nodule, measuring 15 mm in diameter, in her left labia minora. Resection of the labia minora nodule was performed under a clinical diagnosis of Bartholin duct cyst.

Histopathological study of the resected specimen revealed a well-circumscribed unilocular cyst under a surface of squamous epithelium (**Figure 1A**). The cyst wall was lined by two or three layers of bland cuboidal cells and squamous epithelium (**Figure 1B**, **1C**). No mucinous cells were observed. The peculiar finding was the presence of dendritic melanocytes without atypia in both the cuboidal cell layer and squamous epithelium (**Figure 1B**, **1C**). Melanin pigment was also present within the cytoplasm of these epithelial cells (**Figure 1B**, **1C**).

Immunohistochemical studies were performed using an Autostainer (Ventana) by the same method as previously reported [5, 6]. These melanocytes were positive for S-100 protein and Melan-A, and HMB-45 was also expressed in some of these melanocytes (**Figure 2**).

Accordingly, an ultimate diagnosis of pigmented Bartholin duct cyst was made.

Cystic lesions of the vagina are relatively common occurrences in women in their third to fourth decades, and most of them represent a spectrum of embryonal derivatives [1]. According to the summary of two consecutive surgical pathology series, the most common histopathological subtype of vaginal cyst is Müllerian cyst (31 of 83 cases, 37%) followed by epidermal inclusion cyst (24%), Bartholin duct cyst (17%), and Gartner cyst (12%) [1, 7]. Müllerian cyst is covered predominantly by mucinous epithelium, but it may be aslo lined by epithelium of Müllerian origin, such as endocervical, endometrial, and fallopian type [1]. Epidermal inclusion cyst is the most common type of non-embryonal vaginal cyst and occurs in buried epithelium after episiotomy or other surgical procedures. The cyst wall of epidermal inclusion cysts is lined by squamous epithelium [1]. Gartner cyst arises from vestigial remnant of the mesosalpinx via the broad ligament to the cervix. Its cyst wall is covered by cuboidal to low columnar, non-ciliated, non-mucinous cells [1]. The histopathological features of the present case is typical for a Bartholin duct cyst, and according to the above-mentioned histopathological characteristics, differential diagnosis from other type of vaginal cysts was not difficult.

The peculiar finding of the present case was presence of melanocytes within the cuboidal cell layer and squamous epithelium. The pres-

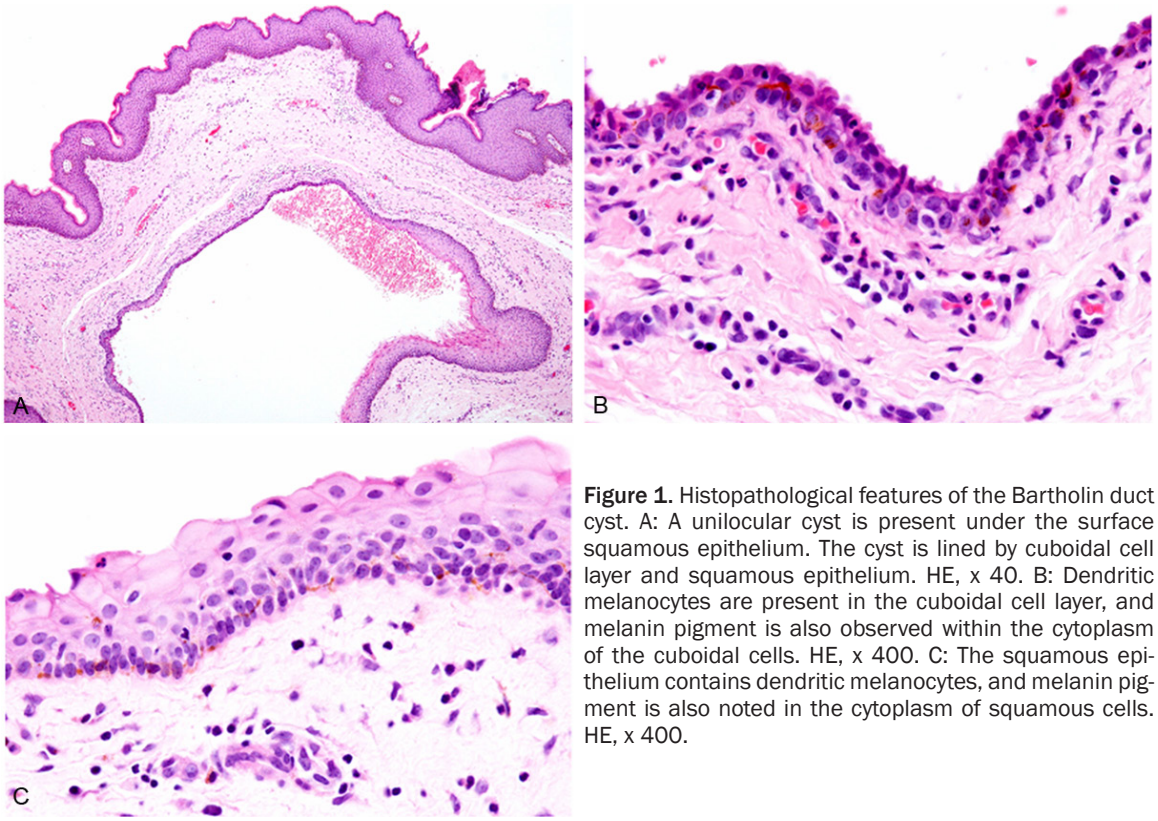

Figure 1. Histopathological features of the Bartholin duct cyst. A: A unilocular cyst is present under the surface squamous epithelium. The cyst is lined by cuboidal cell layer and squamous epithelium. HE, x 40. B: Dendritic melanocytes are present in the cuboidal cell layer, and melanin pigment is also observed within the cytoplasm of the cuboidal cells. HE, x 400. C: The squamous epithelium contains dendritic melanocytes, and melanin pigment is also noted in the cytoplasm of squamous cells. HE, x 400.

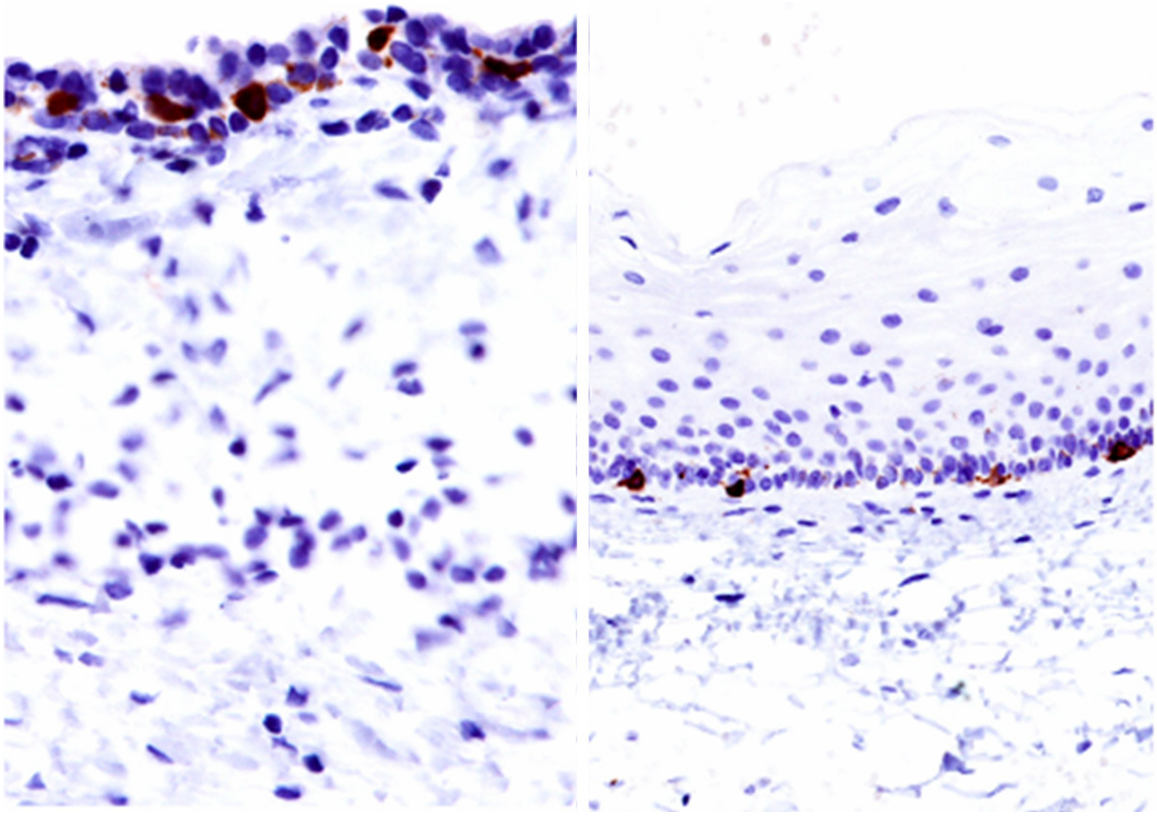

Figure 2. Immunohistochemical features of the Bartholin gland cyst. Melan-A-positive melanocytes are observed in the cuboidal cell layer (left) and squamous epithelium (right). x 400.

ence of melanocytes in median raphe cyst of the penis has been rarely reported [3, 4], and this is the first documented case of pigmented Bartholin duct cyst. The mechanism of pigmentation has not been elucidated [4], and additional studies are needed to clarify the incidence and mechanism of pigmentation of Bartholin duct cyst.

Disclosure of conflict of interest

None.

Address correspondence to: Dr. Mitsuaki Ishida, Department of Clinical Laboratory Medicine and Division of Diagnostic Pathology, Shiga University of Medical Science, Tsukinowa-cho, Seta, Otsu, Shiga, 520-2192, Japan. Tel: +81-77-548-2603; Fax: +81-77-548-2407; E-mail: mitsuaki@belle.shiga-med.ac.jp

References

[1] Eilber KS, Raz S. Benign cystic lesions of the vagina: a literature review. J Urol 2003; 170: 717-722.

[2] Rorat E, Ferenczy A, Richart RM. Human Bartholin gland, duct, and duct cyst. Histochemical and ultrastructural study. Arch Pathol 1975; 99: 367-374.

[3] Nishida H, Kashima K, Daa T, Yada N, Arakane M, Matsuda K, Kato A, Shimizu F, Yokoyama S. Pigmented median raphe cyst of the penis. J Cutan Pathol 2012; 39: 808-810.

[4] Ishida M, Iwai M, Yoshida K, Kagotani A, Okabe H. Pigmented median raphe cyst of the penis: A case report with consideration regarding the possible mechanism of melanocytic colonization. Oncol Lett 2013; in press.

[5] Ishida M, Mori T, Umeda T, Kawai Y, Kubota Y, Abe H, Iwai M, Yoshida K, Kagotani A, Tani T, Okabe H. Pleomorphic lobular carcinoma in a male breast: case report with review of the literature. Int J Clin Exp Pathol 2013; 6: 1441-1444.

[6] Ishida M, Iwai M, Yoshida K, Kagotani A, Okabe H. Sarcomatoid carcinoma with small cell carcinoma component of the urinary bladder: A case report with review of the literature. Int J Clin Exp Pathol 2013; in press.

[7] Kondi-Pafiti A, Grapsa D, Papakonstantinou K, Kairi-Vassilatou E, Xasiakos D. Vaginal cysts: a common pathologic entity revisited. Clin Exp Obstet Gynecol 2008; 35: 41-44.