Case Report

Juvenile Adenomyotic Cyst of the Corpus Uteri with Dysmenorrhea

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TAMURA, M., FUKAYA, T., TAKAYA, R., IP, C., W. and YAJIMA, A. Juvenile Adenomyotic Cyst of the Corpus Uteri with Dysmenorrhea. Tohoku J. Exp. Med., 1996, 178 (3), 339-344 — The clinical and pathological features of an apparently unique case of an endometrial cyst of the uterus are reported. The cyst was located within the myometrium of a 16-year-old woman suffering from dysmenorrhea. After excision of the cyst, patient's symptoms improved. On histological examination, the cyst most closely resembled an adenomyotic cyst —— uterine cyst; cystic adenomyoma; juvenile; dysmenorrhea

Cystic lesions of the uterus are rare, accounting for only 0.35% of all uterine tumors (Dubrauszky 1936). The symptoms are non-specific, being those of a lower abdominal mass. Therefore, the most frequent preoperative diagnosis is that of an ovarian tumor or anomaly of the uterus (Buerger and Petzing 1954; Sherrick and Vega 1962; Neri et al. 1968; Keating et al. 1986; Ejbeckam et al. 1993).

This report describes a rare case of an adenomyotic cyst of the uterus in a 16-year-old woman. After surgery, pathological examination of the cyst revealed features of ectopic endometrial cavity. The differential diagnosis of this cyst is briefly discussed.

Case Report

The patient was a 16-year-old woman with severe menorrhagia for a year. Her menarche occurred at 12 years of age, and her menstrual cycle was regular (30-day cycle). On January 31, 1994, she visited our clinic for the first time with gradually increasing abdominal pain during menstruation. Physical examination revealed no significant findings. As she was a virgin, pelvic examination was omitted. The laboratory studies did not reveal anything specific.

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Ultrasonography of the abdomen and pelvis showed a 3 cm cyst-like structure near the left side of the uterus. It contained fluid and the inner surface was smooth. On magnetic resonance imaging (MRI), a 3 cm cyst-like structure (T1-weighted images were of high signal intensity, T2-weighted images were of the same intensity) involving the left side of the uterus was present. The mass pushed the normal endometrial cavity to the right side making it difficult to trace down to the vagina (Fig. 1A, B). On drip infusion pyelography (DIP), both

![MRI of the pelvic cavity](image_url)

Fig. 1. MRI of the pelvic cavity: A 3 cm cyst-like structure involving the left side of the uterus is present. It is difficult to trace down to the vagina from it. The mass pushes the normal endometrial cavity to the right side. Sagittal T2-weighted image (upper). Horizontal T2-weighted image (lower).
kidneys and the ureters were present and normal in appearance.

The patient was admitted in our hospital on July 22, 1994. On the third day after admission, a laparoscopic examination was done. The uterus was found to be asymmetrically enlarged by a cystic mass arising from the left side (Fig. 2). It did not appear to be uterus bicornis. Both ovaries and the fallopian tubes were normal in appearance, and there was no ascites, adhesions, or endometriosis in the pelvic cavity. Bilateral patency of the fallopian tubes was confirmed by inject-

![Fig. 2. The uterus is found to be asymmetrically enlarged by a cystic mass arising from the left side.](image)

![Fig. 3. Dissection of the anterior uterine wall reveals an endometrial-like cavity measured about 3 cm in diameter. There is no direct communication between the endometrial cavity and the cystic mass.](image)
Fig. 4. Photomicrograph of the cyst showing the endometrial epithelial lining and stroma of the cyst. (×100)

ing Indigocarmine into the uterus via the cervix. Then, laparotomy was done. Dissection of the anterior uterine wall revealed an endometrial-like cavity plastered with darkish brown fluid altered blood. The cystic cavity measured about 3 cm in diameter (Fig. 3). There was no direct communication between the endometrial cavity and the cystic mass. Excision of the cystic wall with subepithelial myometrium was performed. Uterus and both adnexa was preserved. The patient had an uneventful post operative course. Her dysmenorrhea did not totally disappear, but improved being bearable.

On microscopical examination, the cyst was found to be lined by endometrial type epithelium (Fig. 4). The epithelium was composed of a single layer columnar, partly ciliated cells. The stroma below the epithelium was thin throughout the cyst and contained red cells and hemosiderin-laden macrophages at places. The stromal cells were morphologically similar to those of endometrium as in endometriosis. Other adenomyotic foci in the myometrial tissue below the stroma were not present in the specimen. Diffuse hyperplasia and overgrowth of the myometrium was also absent.

**Discussion**

The classification of uterine cysts distinguishes between acquired cysts and congenital ones (Buerger and Petzing 1954). The former includes cystic degeneration of myomas, cystic adenomyomas, cervical retention cysts, serosal cysts, etc. The latter is classified into two groups; those of mesonephric (Wolffian) duct origin and those of paramesonephric (Mullerian) duct origin. Generally, the differentiation of these various types of cysts is based on their anatomic location and their histology. However, distinction of the two congenital duct systems are
difficult.

This report describes the clinical and pathological features of a rare case of an adenomyotic cyst within the myometrium discovered during laparotomy. Histological examination revealed that the cyst was lined by endometrial glands and stroma. But there was no histological evidence of adenomyosis in the specimen. Cystic adenomyomas are usually seen in association with diffuse adenomyosis uteri. They have chocolate- or tar-colored thick viscous contents, and hold varying amounts of endometrial stroma below the glandular epithelium. There is an accompanied diffuse hyperplasia and overgrowth of the myometrium (Neri et al. 1968; Keating et al. 1986; Ejeckam et al. 1993). The patient is a 16-year-old, the youngest cited in the literature, and other adenomyotic foci in the myometrium was absent. Cystic adenomyoma is usually seen in older women, and in association with diffuse adenomyosis uteri. Therefore, although the cyst is most likely an adenomyotic one, according to the current criteria, it is an atypical case.

The patient presented with menorrhagia, dysmenorrhea, and abdominal cramps. There was no communication between the cyst and the uterine cavity. Therefore, these symptoms could be attributed to the progressive increase in size of the mass, stretching of the endometrial cavity and intracystic bleeding. The usually found columnar epithelium of the cyst may show flattening due to the pressure effect of its expanding contents. In places the epithelium may be missing. The cyst in our report also showed these microscopical features. In fact, small adenomyotic blood-filled cysts are frequent. Sleazak and Tillinger (1976) found adenomyotic cysts in 24% of hysterectomy specimens but these were small and usually did not exceed 5 mm in diameter.

Of all the possibilities considered, the cyst most closely resembles an adenomyotic cyst. The similarities lies in 1) the histology, which consists of a small cystic cavity with a lining of columnar epithelium surrounded by stroma, and 2) the contents of chocolate thick viscous fluid.

The etiology of this cyst is unknown. On the basis of present knowledge, these cysts are generally considered to be benign in nature. The treatment depends upon the size, location, and age. Either excision of the cyst or hysterectomy is selected.

References


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