CASE REPORT

Vesical dermoid: a rare bladder tumour

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SUMMARY

Dermoid cysts are benign developmental lesions consisting of tissues of more than one germ cell lineage origin. The urinary bladder is a very rare location of dermoid cysts. We report a case of an 18-year-old woman who presented with suprapubic pain, dysuria and turbid urine. Blood and serum chemistry was normal. Contrast-enhanced CT revealed a heterogeneously enhancing mass of 2.5×2 cm within the urinary bladder infiltrating fundus of urinary bladder with extraluminal extension. At cystoscopy, an irregular mass arising from the dome of the urinary bladder with a covering of hair and whitish scales was seen. The patient was managed by transperitoneal laparoscopic partial cystectomy with left oophorectomy. Histology revealed dermoid cyst arising from the urinary bladder and simple serous cyst in the ovary. Postoperative course was uneventful.

BACKGROUND

Dermoid cysts are benign developmental lesions consisting of tissues of more than one germ cell lineage origin. The most widely accepted theory of dermoid cyst origin, the parthenogenesis theory, states the origin from primordial germ line cells.¹ Ovaries are among the most common sites, but occurrence at dermatome fusion at axial and para-axial locations is also reported. The urinary bladder is a very rare location of dermoid cysts.² We report a

case of an 18-year-old woman with vesicle dermoid with serous left ovarian cyst which was managed by laparoscopic partial cystectomy with left oophorectomy.

CASE PRESENTATION

An 18-year-old unmarried woman presented with complaint of suprapubic pain, dysuria and turbid urine with the passage of whitish flakes for last 5 months. The pain was constant dull aching, non-radiating and relieved by voiding. There was no history of fever, weight loss, haematuria or menstrual abnormality. General physical and local examinations were unremarkable.

INVESTIGATIONS

Laboratory investigations revealed haemoglobin of 11.6 g/dL, total leucocyte count of $7600 \times 10^9/L$, blood urea of 22 mg/dL, serum creatinine of 0.8 mg/dL and serum sodium and potassium 134 and 4.1 mmol/L, respectively. Urine analysis demonstrated 1–2 pus cells per high-power field, and urine culture was sterile. No malignant cells were found on cytology examination. Ultrasonography abdomen reported bilateral normal kidneys and a mass measuring 31×36 mm on the posterior wall of the urinary bladder. Contrast-enhanced CT (CECT) revealed a heterogeneously enhancing soft tissue attenuation lesion measuring approximately

Figure 1 (A–C) Contrast-enhanced CT showing a heterogeneously enhancing soft tissue attenuation lesion (2.5×2 cm) within the lumen of the urinary bladder. The lesion was seen infiltrating fundus of the urinary bladder with extraluminal extension in supravescical space with focal calcifications.

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Figure 2 Cystoscopy showing a whitish, irregular mass arising from the dome of the urinary bladder with covering of hair.

2.5×2cm within the lumen of the urinary bladder. The lesion was infiltrating fundus of the urinary bladder with extraluminal extension in supravescical space with focal calcifications (figure 1). On cystourethroscopy, a whitish, irregular mass arising from the dome of the urinary bladder with a covering of hair was seen (figure 2).

DIFFERENTIAL DIAGNOSIS

Dermoid cyst is considered in the list of the differential diagnosis of bladder mass, but the patient can be assured based on the benign nature of the lesion. Vesical dermoid may be confused as vesical calculus.²

TREATMENT

The patient was managed by transperitoneal laparoscopic partial cystectomy with left oophorectomy. Intraoperatively, dermoid cyst was having both intravesical and extravesical extension and dense adhesions with the left ovary which was cystic in appearance and non-separable from dermoid cyst (figure 3). Gross specimen demonstrated a dumbbell-shaped, solid-cystic mass having intravesical and extravesical component, which was attached by

Figure 4 (A,B) Gross specimen demonstrated a dumbbell-shaped, solid-cystic mass having intravesical and extravesical component, which was attached by a pedicle (marked with a blue arrow in (B)) to the bladder wall. Intravesical part revealed epidermis with hair tuft (marked by red arrow in (B)), pultaceous material with calcification.

a pedicle to the bladder wall. Intravesical part revealed epidermis with hair tuft, pultaceous material with calcification (figure 4). Postoperative course was uneventful.

OUTCOME AND FOLLOW-UP

Histopathological findings were consistent with dermoid cyst arising from the urinary bladder and simple serous cyst in ovary. Patient was discharged in satisfactory general condition.

DISCUSSION

Teratoma is a unique neoplastic tumour exhibiting morphological or histological evidence of all three germ cell tissues. The histology of dermoid teratoma may contain ectodermal components in the form of keratinising squamous epithelium,

Figure 3 (A,B) Intraoperative photograph showing dermoid cyst having both intravesical and extravesical extension and dense adhesions with the left ovary which was cystic in appearance and non-separable from dermoid cyst. (C) Intraoperative photograph showing Foley bulb within the urinary bladder after incising the bladder wall. (D) Immediate postoperative photograph.

respiratory epithelium or primitive neuroectodermal remnants. The mesodermal derivatives include tooth, cartilage, bone, blood vessels or smooth muscles. As endodermal components, gastric or intestinal mucosa and/or pancreatic tissue may be reported.^{3 4} However, the urinary bladder is a very rare site of origin of the dermoid cyst with less than 15 cases reported in literature so far. Teratomas may undergo uncoordinated growth with solid, cystic or mixed consistency. Histologically, they may contain mature or immature tissues and occasionally malignant elements.⁵ We report our case of primary urinary bladder dermoid cyst presented with non-specific lower urinary tract symptoms in a young female. Cystoscopy stands as a gold standard modality of diagnosis, revealing pathognomonic finding of tumour with presence of hairline. However, CECT is helpful in revealing dermoid cyst extent, extravesical extension and relation with surrounding structures. We managed our case with laparoscopic partial cystectomy with left oophorectomy. We removed the left ovary for completeness of removal to prevent recurrence as

reported in previous cases.⁴ In literature, spillage and implantation of cyst components remained a potential criticism of laparoscopy.⁶ We practised utmost care while delivering cyst to prevent this serious complication of spillage and implantations.

The histology report revealed only mature dermoid tissue which runs a benign course, so patient was ensured about excellent chance of cure.

Contributors All the authors declare that they have all participated in the design, execution and analysis of the paper and that they have approved the final version. Each author's individual contributory statement is as follows: AKS, BPS: concept, design, supervision, processing, writing manuscript and critical analysis; SG: supervision, processing, writing manuscript and critical analysis; DKS: concept, supervision, writing manuscript and critical analysis.

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Learning points

- ▶ Vesical dermoid cyst is a rare, benign cause of lower urinary tract symptoms in young females.
- ▶ Cystoscopy remains the gold standard for the diagnosis.
- ▶ CT scan is helpful for surgical planning by providing information of dermoid cyst extent and relation with surrounding structures.
- ▶ Vesical dermoid can be managed by carefully done laparoscopic partial cystectomy and avoidance of spillage.

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