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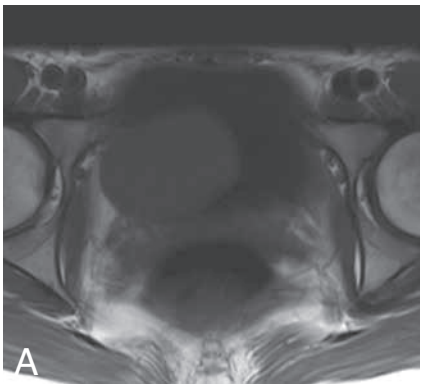
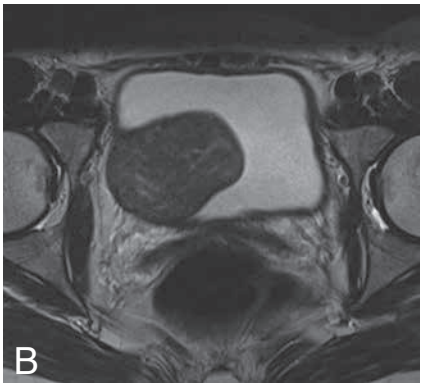
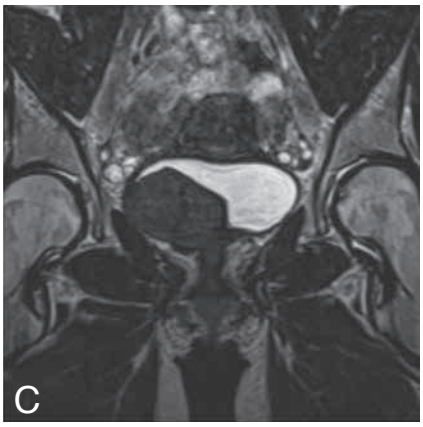
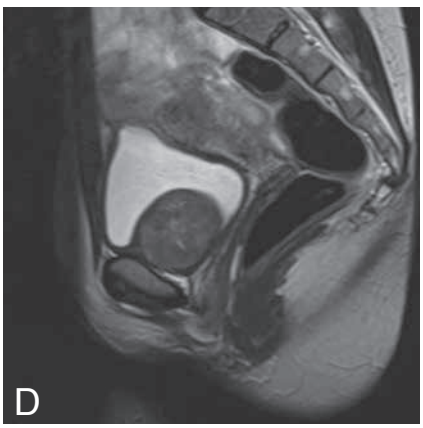
IMAGES IN CLINICAL RADIOLOGY









Leiomyoma of the urinary bladder

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A routine gynaecological examination in a 26-year-old woman revealed a palpable mass behind the pubic symphysis. Transvaginal ultrasound showed a solid mass of 5 cm between the vagina and the urinary bladder protruding into the bladder. A transvaginal biopsy was performed and the pathological report suggested a benign mesenchymal tumor, most likely a leiomyoma. MRI scan showed a well-circumscribed solid mass on the endovesical side of the right bladder wall. The lesion had a homogenous low signal intensity on T1WI (Fig. A) and a slightly heterogeneous medium signal intensity on T2WI (Fig. B). The lower portion of the lesion extended to the bladder neck (Fig. B, C). On cystoscopy the tumor was covered by intact mucosa and extended close to the right ureteral orifice. Since the patient had initially no complaints ultrasound monitoring was suggested. However, one year later, she developed increased urinary frequency, and it was decided to resect the leiomyoma. Laparotomic resection resulted in a well-circumscribed mass that could relatively easily be removed by enucleation. Laparotomy was preferred over laparascopic resection because of the proximity of the right ureteral orifice. The pathological examination confirmed the diagnosis of a leiomyoma. The postoperative period was uneventful and patient is doing well 15 months after surgery.

Comment

Bladder leiomyomas are rare and account for less than 0.43% of all bladder tumors. Leiomyomas are classified in the category of benign mesenchymal tumors. They may arise throughout the genitourinary system, but the renal capsule is the most common location. Leiomyomas of the urethra are less common than leiomyomas of the bladder. Series of cases reported in literature show that up to half of the tumors are incidentally discovered during a routine pelvic examination or on imaging performed for other reasons. Recent reports have indicated a possible higher incidence in woman but the reason has not been elucidated yet. The association with female hormones has been suggested although the cases discovered incidentally may be higher in women due to the higher frequency of ultrasonographic and pelvic examinations in women.

The clinical presentation of bladder leiomyomas is variable and ranges from asymptomatic to urinary infection, hematuria and obstructive or irritative symptoms. It is presumed that bladder leiomyomas produce symptoms primarily related to their location and secondly to their size. Bladder leiomyomas have been described to occur in endovesical, extravesical or intramural locations. Endovesical leiomyomas, the most common type, tend to cause symptoms in a greater degree than extravesical or intramural leiomyomas. Bladder leiomyoma occur as solitary tumors in most cases, nonetheless multicentric tumors have been described. Bladder leiomyomas are histologically identical to uterine leiomyomas and therefore they have the same characteristics on imaging. On ultrasonography a smooth, homogenous solid mass is usually demonstrated, although partially cystic appearing leiomyomas have been reported. On MRI leiomyomas usually show medium-signal intensity on T1WI and homogenous low-signal intensity on T2WI. The optimal treatment for bladder leiomyoma has not been established yet. To date, surgical resection is the treatment of choice for all leiomyomas, however, some authors claim that for asymptomatic, non-obstructive and non-problematic leiomyomas follow-up may be sufficient since no malignant transformation of bladder leiomyoma has been reported.

Reference

Cornella J.L., Larson T.R., Lee R.A., et al.: Leiomyoma of the female urethra and bladder: Report of twenty-three patients and review of literature. *Am J Obstet Gynecol*, 1997, 176: 1278-1285.

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