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Pelvic leiomyoma associated with intermediate risk prostate cancer: A case report

Houssem Ben Hadj Alouane [a,*], Mohamed Amine Oueslati [a], Mohamed Ben Hassine [a], Imen Helal [b], Ehsen Ben Brahim [b], Sami Ben Rhouma [a]

[a] Habib Thameur Hospital, Department of Urology, 1089 Ali Ben Ayed st, Tunis, Tunisia
[b] Habib Thameur Hospital, Department of Histopathology, 1089 Ali Ben Ayed st, Tunis, Tunisia

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ABSTRACT

Pelvic leiomyoma in male patients is a very rare occurrence and its association with prostate cancer is a unique clinical situation. This study reports a new case of a 9 cm pelvic Leiomyoma associated with intermediate-risk localized prostate cancer in a 68-year-old patient. The leiomyoma was discovered fortuitously after an MRI was performed in the context of prostate cancer work-up. Surgical excision of the pelvic mass along with a radical prostatectomy were performed and the diagnosis of leiomyoma was confirmed by histopathology.

1. Introduction

Leiomyoma is a benign tumor that can arise in organs containing smooth muscle tissue. Leiomyoma confined to the pelvis is common in female patients; However, in male patients it is an uncommon occurrence.[1] Disease management can be problematic when associated with another pelvic malignant tumor. We present a rare case of a patient presenting with prostate cancer along with a pelvic leiomyoma and how both diseases were managed synchronously.

2. Case presentation

A 68-year-old patient with no prior medical history presented with obstructive lower urinary tract symptoms that had been evolving for 3 months. Lower abdomen examination was negative for any palpable mass and digital rectal examination showed a non-suspect prostate with a volume estimated at 40 g. PSA levels were at 11 ng/ml and consequently, a randomized *trans*-rectal ultrasound guided prostate biopsy was carried out. Histological report showed Grade Group 1 prostate adenocarcinoma on 2 cores out of 12 (30% of each core). Prostatic MRI was performed which revealed the presence of a 9 cm left-sided well encapsulated heterogeneous pelvic mass of soft tissue density (Fig. 1). This tumor exerted mass-effect on the bladder and its origin was unclear. Alongside the tumor, MRI revealed the presence of a 12 mm PIRADS 4 prostatic lesion. Cystoscopy was performed to eliminate the possibility of endo-luminal development. Progression to the bladder was difficult as it was displaced by external compression of the mass and no internal lesion was revealed. In summary, the patient presented an intermediate risk prostate cancer associated with the 9 cm pelvic mass of unknown origin with rather benign radiological features. The decision was to surgically remove the pelvic mass and to perform a radical prostatectomy. The risk of lymph node involvement was less than 7% according to the Briganti nomogram which meant lymph node dissection could be safely omitted. The intervention was carried out via retropubic approach. Posterior dissection of the bladder allowed for adequate exposure of the 9 cm mass which was oval shaped and well encapsulated (Fig. 2-a). The origin of the mass was not clear as it did not seem to originate neither from the bladder nor the prostate or seminal vesicles. Resection of the mass was performed (Fig. 2-b) and was followed up by a radical prostatectomy. Post operative course was uneventful and the patient was discharged after 4 days. Anatomopathological examination revealed a benign mesenchymal proliferation comprised of interconnected bundles made up of fusiform cells with regular nuclei (Fig. 3-a). Immunohistochemical profile was compatible with that of a leiomyoma as the tumor expressed the 3 muscular markers Actin, Desmin and Caldesmon (Fig. 3-b). It also expressed CD34 and CD99 and was negative for CD117, Dog1 and PS100. As for the prostate, the pathological report revealed a Grade Group 2 pT2 localized adenocarcinoma with negative surgical margins.

* Corresponding author. 17 rue de la méditerranée Jardins d'el Menzeh 2, Ariana, Tunisia.
E-mail addresses: hadjalouane.houssem@gmail.com (H. Ben Hadj Alouane), damine.oueslati.ao@gmail.com (M.A. Oueslati), drbenhassine.mohamed@gmail.com (M. Ben Hassine), imen.helal@gmail.com (I. Helal), benbrahim_ehsen@yahoo.fr (E. Ben Brahim), sbenrhouma@yahoo.fr (S. Ben Rhouma).

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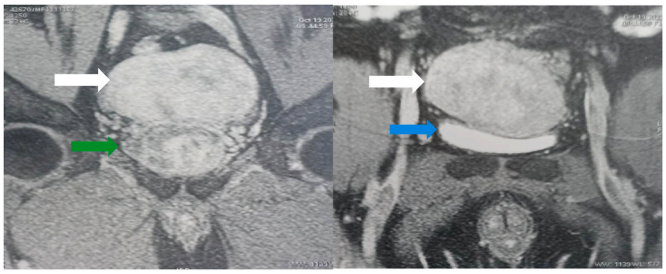

Fig. 1. Coronal pelvic MRI view depicting a 9 cm well encapsulated pelvic mass (white arrow) displacing the bladder (blue arrow). The mass is in close contact with the prostate (green arrow) which contains a left sided PIRADS 4 lesion. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

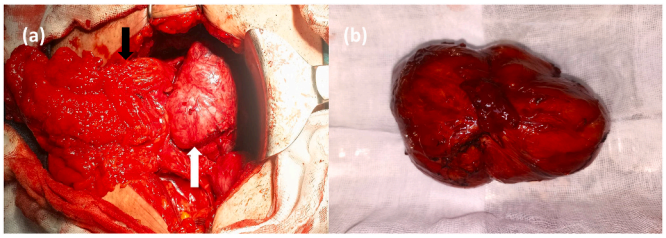

Fig. 2. Perioperative view of the mass (2-A, white arrow) after posterior bladder dissection (2-A, black arrow). This mass was excised (2-B).

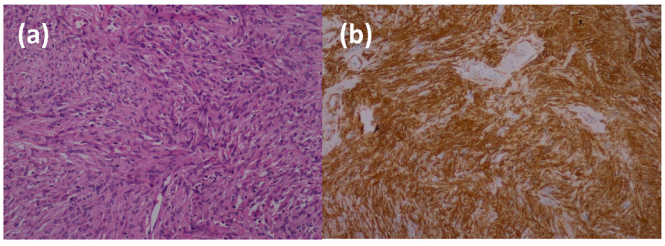

Fig. 3. H&E stain x200 (3-A) showing a mesenchymal proliferation comprised of smooth muscular cells without atypia or mitosis. View after immunochemistry (3-B) showing diffuse actin expression.

3. Discussion

Leiomyomas are benign mesenchymal tumors which frequently arise in the female genitourinary tract, particularly from the uterus.[1] The male pelvis is a rather uncommon site for leiomyoma development and most reported cases are those of prostatic and bladder and seminal vesicle origin. However primary pelvic leiomyoma is an even rarer entity which is thought to originate from the smooth muscle cells of small venules.[2] Pelvic Leiomyomas are generally asymptomatic up until they reach considerable sizes resulting in LUTS or bowel symptoms due to bladder or rectal compression. Bilateral ureteric compression with acute kidney failure is also a possible revelation mode.[3] In our case, discovery of the leiomyoma was rather fortuitous during the diagnostic work-up for prostate cancer. To our knowledge, there are no reported cases describing the simultaneous management of prostate cancer along with a pelvic leiomyoma. Surgical resection is the gold standard for treatment of leiomyoma; However, conservative management either by active surveillance of asymptomatic masses or embolization of the prostatic artery when the prostatic origin is clear have been described.[1] Our patient presented with intermediate risk prostate cancer, which was the primary motivator to surgically manage both diseases. Had the patient presented with low-risk prostate cancer, active surveillance would have been an option. In this scenario, a biopsy of the mass would be a reasonable course of action; however, it may be insufficient to differentiate between leiomyoma and leiomyosarcoma which is why surgical resection is the preferred treatment in all cases.[4,5] The prognosis of leiomyoma is excellent with very low recurrence rates.[3]

4. Conclusion

To summarize, the association of male pelvic leiomyoma along with prostate cancer is a rather unique situation. Both diseases should be managed simultaneously with a preference for surgical treatment. Indeed, it is difficult to distinguish between leiomyoma and leiomyosarcoma preoperatively. Consequently, complete tumor resection and long-term follow-up are currently the most prudent options.

References

1. Kathuria K, Menon S, Deodhar K, Bakshi G, Desai S. Pelvic periprostatic symplastic leiomyoma: an unusual case necessitating a radical surgery. *J Cancer Res Therapeut.* 2013;9(2):299–301. https://doi.org/10.4103/0973-1482.11339.
2. Wang X, Ren J, Chen G, Xu S. Giant abdominal leiomyoma of male: a case report and literature reviews. *Int J Clin Exp Pathol.* 2015;8(7):8532–8535.
3. Singh SK, Kafle A, Karkee RJ, Irfan QA, Pradhan A, Pandit N. Primary leiomyoma of the pelvis complicated by obstructive uropathy: a rare entity in an adult male. *Indian J Surg Oncol.* 2020;11(Suppl 2):237–239. https://doi.org/10.1007/s13193-020-01194-4.
4. Psichogios CI, Chatziioannou AN, Klapa IH, Psichogios DI, Antoniou AG. Leiomyoma of the Retzius space in a male patient: a case report and a diagnostic approach to Retzius space diseases. *J Clin Ultrasound.* 2019;47(1):51–54. https://doi.org/10.1002/jcu.22654.
5. Żak K, Zaremba B, Rajtak A, Kotarski J, Amant F, Bobiński M. Preoperative differentiation of uterine leiomyomas and leiomyosarcomas: current possibilities and future directions. *Cancers.* 2022;14(8):1966. https://doi.org/10.3390/cancers14081966.