



Testis sparing surgery for testicular masses: fact or fiction?

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The incidence of testicular cancer is rising in recent years, mainly due to the widespread use of clinical and ultrasound examination, accounting for almost 5% of all urological malignancies (1). Current dogma in diagnosis and treatment consists of radical inguinal orchidectomy (for early stages), followed by radiation and/or chemotherapy (advanced stages) if necessary, as reported in the guidelines (2,3).

However, this radical approach may not be suitable to every testicular mass encountered in clinical practice. Considering the fact that the majority of patients presenting with painless testicular mass are young males, to whom fertility preservation is important, partial orchidectomy could be a solution in selected cases.

Ercolino *et al.* present a case of a 20-year-old patient with an incidental right testicular mass, discovered during clinical evaluation of a left varicocele (4). No clear malignant features on testicular ultrasound and multiparametric magnetic resonance imaging (mpMRI) examination were found, with serum tumor markers being within normal limits (4). The patient underwent right inguinal partial orchidectomy, with frozen sections and final pathology report confirming the diagnosis of mixed sex chord stromal tumour, myoid variant (4).

In such cases, testis preserving surgery can be offered as an alternative to the radical approach, in order to achieve a maximum fertility preservation, minimum negative psychological impact regarding one's sexuality/appearance and prevent hypogonadism and long-term testosterone supplementation. However, it is of utmost importance that

patients are informed regarding the risk of salvage radical inguinal orchidectomy if malignancy is confirmed at final pathology report.

Other indications for testis sparing surgery include bilateral synchronous testicular masses and testicular tumors in solitary testis (5).

From a technical point of view, two aspects are vital when performing testicular sparing surgery: accurate localisation of the lesion and ischaemia time. First of all, precise identification of the mass among the testicular parenchyma is crucial, in order to guide the incision of the tunica albuginea. After isolating the spermatic cord and exposing the gonad, the albuginea overlying the lesion is incised. If the mass is not palpable directly, intraoperative ultrasound examination as described by the authors (4) can be of aid in identifying the place for incising the albuginea. Second of all, similar to a partial nephrectomy where the renal artery is clamped before the enucleation of the renal tumor, during partial orchidectomy, the spermatic cord must be isolated and clamped before opening the tunica albuginea. This entails that the surgeon must open the albuginea, remove the testicular mass and send it to pathology for frozen sections report, close the albuginea in warm ischaemia time. A prolonged ischaemia time may result in necrosis of the remaining testicular parenchyma, compromising the functional outcomes. Finally, in case of positive frozen section examination, radical orchidectomy should be mandatory in all cases (6), because of a high sensitivity and specificity (of over 95%) for malignancy (7).

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The authors report the first testicular sparing surgery for myoid gonadal stromal tumor in literature, a rare benign finding in the wide spectrum of testicular masses (4). However, this procedure has previously been described for other rare benign testicular tumors, such as sertoliform cystadenoma (8). In both cases, no immediate or long-term postoperative complications were reported (4,8). Although limited case series, these results are encouraging for the implementation of this surgical technique.

In conclusion, testis sparing surgery can be offered as a surgical option in the management of testicular masses with negative serum markers, negative imaging reports for malignancy, especially in young males that desire a maximum fertility preservation and to prevent hypogonadism. However, every patient must be informed beforehand of the risk of radical inguinal orchidectomy at the time of the surgery if frozen section report is inconclusive or suspicious for malignancy, as well as the risk of radical salvage inguinal orchidectomy if final pathology report is consistent with malignancy.

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