Oncology

Spermatic Cord Leiomyosarcoma Rare Case

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Abstract
Case description of a male patient of 64 years who presents a left groin-scrotum painless tumor, growing, from several months of evolution. Physical examination demonstrated the existence of a mass effect of the left distal spermatic cord, and was later confirmed by ultrasound and CT. Laboratory parameters were normal. The performed surgery consisted in a radical orchiectomy with high ligation of the left cord. In conclusion, preoperative diagnosis of spermatic cord leiomyosarcoma is difficult, we need the combination of present illness, physical examination, exams and the gold standard histopathological and immunohistochemical studies allowed a definitive diagnosis.

Introduction
Paratesticular tumors, those in relation to the testicle, are uncommon malignant neoplasms. Only 7% have paratesticular location. They can be divided into liquid and solid. These – at the same time – are divided into benign and malignant. Sarcomas make up 90% of the total, and within these, leiomyosarcoma represents approximately 10% overall of histopathologic varieties described in the literature.

Clinical case
G.C.C., Mexican, of 64 years old. Began suffering his condition 8–9 months ago with increasing volume of the left groin-scrotum. Physical examination shows a well-delimited mass, seems to form body with the spermatic cord, it is mobile, of irregular surface, of hard-elastic consistency, discreetly painful to pressure, apparently respects the testicle and epididymis and is negative to contrast lightning. Another mass is founded in the superficial inguinal region. The general analytical determinations in blood and urine were normal. The serum levels of alpha-fetoprotein and beta-hCG resulted at the same time within normal limits. An ultrasound shows evidence of a mass of 15 × 10 cm in the groin-scrotum region and adenopathy of 5 cm diameter in the left groin. A CT scan was performed and the markers for germ injuries came out negative. A biopsy is performed with a thick needle and considering an adenopathy, it suggests a mesothelial injury and it is identified as a leiomyosarcoma of spermatic condom.

It was proposed to proceed with a surgical exploration that took place on 04/16/2014 and whose protocol informs: left groin-scrotum incision, previously repairing the vascular elements of the cord, proceed to explore the tumor. This is presented above the gonad, of whitish color and with invasive nature, but rejects to include the nervous and vascular elements in the process. The intraoperative biopsy of the tumor showed sarcomata’s tissue with fusiform cell. The result of the final histopathology together with the immunohistochemically positivity for the specific smooth-muscle actin, allowed to establish the final diagnosis of well differentiated paratesticular leiomyosarcoma distinct without vascular invasion, but with epididymal infiltration. We proceed to the radical orchiectomy with high ligation of the spermatic cord. Scrotal drainage by counteropening and closure by levels. Tumor-free surgical limits. The postoperative evolution was satisfactory.

Histopathology report
Malignant neoformation of mesenchymal origin with smooth-muscle differentiation constituted by interwoven fascicles of cells with eosinophilic cytoplasm and fusiform core with areas of abundant mitosis (10–12 mitosis/10 increase fields).
Discussion

Paratesticular primitive tumors can be divided, according to their location in: tumors in testicular tunics, epididymis and spermatic cord. The first case of sarcoma of the spermatic cord was contributed by Lesauvage in 1845. Spermatic cord tumors are the most common comprising approximately 75%, being 90% of them of mesodermal origin. The most common neoplasms are those of benign strain (70%), most of them being lipomas. Furthermore, due to the embryologic mesodermal origin of the spermatic cord as from the Wolf conduit, most malignant tumors are from sarcomatous lineage and include rhabdomyosarcoma, leiomyosarcoma, liposarcoma, malignant fibrous histiocytoma and fibrosarcomas.

The cases of spermatic cord leiomyosarcoma collected in the literature allow to appreciate a higher incidence in adulthood as from the sixth decade of life. Intimate pathophysiologic mechanisms that lead to the occurrence of these neoplasms are unknown, although it is speculated with the role that could play an occasional degeneration of a leiomyoma originated prior from funicular structures constructed by smooth-muscle.

The preoperative diagnosis between paratesticular and testicular tumor is complex, but it can sometimes be clinically elucidated when it comes to a small cord tumor that is palpable independently to the testicle. However larger paratesticular tumors are more difficult to diagnose by simple exploration and we must support ourselves in radiological tests such as ultrasound, CT or MRI. These diagnostic methods will help us differentiate whether the tumors are dependent, or not, to the testicle, and specially they will direct us toward the type of tumor histology (Figs. 1–3).

While benign cases can be seen as a well-delimited, homogeneous and hypoechoic image on the ultrasound, the malignant neoplasms of said region are usually displayed as a solid mass, vascularized, hyperechoic and heterogeneous with necrosis areas and variable size which tends to move the testicle.

The definitive diagnosis is given by pathologic examination. While the immunohistochemical techniques facilitate the diagnosis, they may sometimes not be conclusive. The specific muscle actin must be positive, as well as the Desmin and not the Vimentin or S 100 Protein, found in fat cells.

From the pathological point of view, it is accepted as a poor prognosis: 1) high cellularity, 2) vascular invasion, 3) necrotic areas, 4) presence of multinucleated cells and 5) mitotic index greater than 2.

As definitive treatment, inguinal radical orchietomy with high ligation of the spermatic cord is accepted. There is no uniformity of criteria at the moment to indicate adjuvant therapy, given the short experience in his treatment. While some authors advocate the prophylactic irradiation even after primary surgery for local disease control and even reduce local recurrence, others do not believe it has the role of controlling local recurrences. Proponents adjuvant radiotherapy propose it in the inguinal canal and adjacent pelvic tissue. The retroperitoneal lymphadenectomy is reserved for cases for rhabdomyosarcoma histopathological diagnosis and of cases of
locoregional extension or recurrence. Most part of metastases are made hematogenously, so that prophylactic irradiation lacks of indication nowadays.4

Conclusion

In conclusion, spermatic cord sarcomas constitute a rare entity that usually debuts as an indolent paratesticular mass. Radiological methods such as ultrasound, CT or MRI are needed for its diagnose, radical orchectomy and the excision of cord elements are accepted as treatment. The spread can be both lymphatic and hematogenous mostly to liver and lung. Retroperitoneal lymph node dissection is not recommended as prophylactic, and compared to surgery, the effects of adjuvant therapies, including chemotherapy and radiation therapy are unknown, although many authors recommend it following radical surgery.

Conflict of interest

There is no conflict of interest.

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