

Summary.- OBJECTIVE: To describe the clinical and radiological features, and the role of imaging in diagnosis and extension study of testicular lymphoma (TL).

METHODS: Testicular and inguinal color Doppler ultrasound, extension-study Multidetector Computed Tomography (MDCT), and Doppler ultrasound and MDCT in an upper extremity metastasis were performed.

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Accepted for publication: April 9th, 2010
INTRODUCTION

Although testicular lymphoma (1% -8% of all testicular tumors) is a rare neoplasm, it is the most common primary gonadal tumor in men older than 60 years, manifesting as painless testicular enlargement with an aggressive behavior. Despite presenting a varied radiological semiology, orbital and soft tissue of the arm metastasis (in our first case and in the same patient) and the involvement of patients below 60 years (cases 1 and 2) are scarcely reported in the literature reviewed (1, 2).

CASE REPORTS

Case 1

A 64 years-old man complained of painless left testicular enlargement (11 years ago). Testicular ultrasound showed a solid mass of 4x3 cm with increased vascularity and two adjacent nodes of 0.4 cm with no discernible infiltration of paratesticular structures. Orchiectomy was performed. The histopathologic examination revealed diffuse large non-cleaved cell non-Hodgkin’s lymphoma of B-cell origin.

Five years later shows an enlarged and indurated right testicle with an heterogeneous echogenity and multiple hypoechoic focal lesions, the largest of approximately 3.2 cm, with increased blood flow demonstrated by ultrasonography. After orchiectomy (large B-cell lymphoma) underwent adjuvant chemotherapy and radiotherapy.

Three years later, has a recurrence in the orbital (MDCT: 2 cm nodule in the internal corner of the left orbit with intense enhancement after contrast administration) that is treated with radiotherapy remitting.

Two years later complained of paresthesias in 4th and 5th fingers of the left hand, revealing the ultrasound an heterogeneous solid mass of 11x6 cm, infiltrating the ulna nerve. A biopsy of the lesion was performed resulting in B-cell lymphoma of intermediate cells. Currently, the injury progresses despite radiation therapy and in the last survey in September 2009 the lesion infiltrates the 2/3 proximal ulnar nerve (Figures1,3).

Case 2

A 44 years-old man that comes to our department because of a painless left testicular enlargement (11 years ago). Testicular ultrasound showed a solid mass of 4x3 cm with increased vascularity and two adjacent nodes of 0.4 cm with no discernible infiltration of paratesticular structures. Orchiectomy was performed. The histopathologic examination revealed diffuse large non-cleaved cell non-Hodgkin’s lymphoma of B-cell origin.

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20 mm. Radical orchiectomy and lymphadenectomy is performed (Histology: NHL-B) (Figure 2 A and B).

Case 3

Patient of 85 years old who consulted for a right increased testicle. Ultrasound: increased size (5.5 cm) and multiple heterogeneous solid lesions with invasion of the spermatic cord, epididymis and tunica. Orchiectomy and lymphadenectomy is performed. The extension study shows a large retroperitoneal mass of 22x10 cm that includes the right ureter causing obstructive uropathy grade IV / IV. Nephrostomy and palliative care is performed (Figure 2 C and D).

DISCUSSION

Primary testicular lymphoma is between 1%-8% of all neoplasms in this location (1,2) and is the most frequent testicular tumor in patients over 60 years (3,4,5,6,7) (representing 25-50% of testicular tumor in this age group), as well as the most common bilateral testicular neoplasm with an overall prevalence of metachronous involvement approaching to 20%, which constitutes a factor of poor prognosis in the course of the disease.

Secondary involvement of the testis in patients with systemic lymphoproliferative disorders (leukemia/lymphoma) is far common than primary testicular lymphoma (64% of involvement in acute leukemias and 22% in the chronic) thus being the most common testicular neoplasm in all age groups (2). The disease typically presents in patients over 60 years although two of our cases affected younger patients (44 and 53 years) without apparent risk factors associated with an earlier presentation.

Histologically, as in our three cases, the vast majority (up to 79%) are diffuse large B-cell non-Hodgkin’s lymphomas which are intermediate or high grade neoplasm (1% -2% of all non-Hodgkin lymphoma) (8,9,10).

There are neither any well-documented etiological or predisposing factors nor any significant associations existing between histories of trauma, chronic orchitis, cryptorchidism, filariasis and subsequent development of TNHL; although there is an increased incidence in immunosuppressed patients, mainly in those positive for the human immunodeficiency virus (HIV) where the disease presents at an early age and with a worse prognosis (2,3).

Clinically, the typical presentation is as a painless testicular swelling that develops over a span of weeks to months (2,7,8), a fact noted in our 3 cases. B-constitutional symptoms such as fever, weight loss, anorexia and weakness are present in 25-50% of patients (2,10) and tumor markers such as serum beta human chorionic gonadotropin (HCG) and serum alpha-fetoprotein (AFP) are rarely elevated. Two-thirds of the patients have localized or regional disease (stages I and II of the Ann Arbor classification) at presentation.
It is an aggressive tumor with frequent invasion of the epididymis, spermatic cord and scrotum and has a marked tendency to relapse, especially in the CNS and less commonly in the skin (papules, nodules, tumors or plaques), Waldeyer ring (causing nasal obstruction and recurrent otitis), bone marrow, lung and contralateral testis either synchronous or metachronous bilateral involvement, latter being more frequent (1-3,5-7). Ocular involvement is rare, having been described in the literature reviewed about six cases in various locations (ciliary body, vitreous, retina, uvea, conjunctiva and orbit) (1,2). The soft tissue involvement without skin infiltration is also uncommon, with the peculiarity that these two types of metastases (orbital and soft tissue) occur in the same patient (case 1).

The diagnosis of the primary lesion is usually performed by color Doppler ultrasound, and may include homogeneous and hypoechoic enlarge masses that replace the normal homogeneous echogenic testis or focal lesions with different echogenicity; being rare calcifications and cystic areas well defined (it can be identified foci of necrosis and / or bleeding).

The absence of the latter two sonographic findings in lesions of considerable size (that help us to distinguish it from testicular mixed germ cell tumors -MGCT-) together with the age of presentation (usually over 60 years, significantly higher than in the MGCT patients) should make us suspect this condition. There is an overlap with the imaging features of seminoma (mainly diffuse lymphomas); however the involvement of the epididymis and spermatic cord (present in 50% of lymphomas) is very rare in seminoma.

Ultrasound is also suitable for the evaluation of inguinal lymph node chains. The tumoral tissue typically demonstrates increased blood flow with a low resistance Doppler flow pattern. The MDCT is widely used in the staging thoracoabdominal and in the assessment of ocular-orbital and soft tissue involvement, although the latter two locations as well as in the study of CNS, MR is becoming more important.

The extension study is completed with bone marrow and CSF examination. The diagnosis requires histological confirmation and its main differential diagnosis include
FIGURE 3. A). US image shows a hypoechoic hypervascular mass.
B). Doppler US image shows increased blood flow with a low arterial resistance flow pattern.
C). Large cell lymphoid proliferation (Hematoxylin-Eosin).
D). Diffuse cytoplasmic expression with CD20.

seminoma, including variant spermatocytic, embryonal carcinoma, viral orchitis and metastases (8,9,10).

The treatment is mainly based on orchiectomy (mostly in stages IE and IIE, associated or not with prophylactic irradiation of the scrotum and administration of intrathecal chemotherapy), chemotherapy (stages IIE and IVE) and radiotherapy (3).

The prognosis is poor (median survival of 30% at 5 years with an average of 13 months) with a two-year relapse rate exceeding 50% in most cases, even in stages I and II (7). The advanced clinical stage (most important), elderly, bilateral involvement and the presence of constitutional syndrome are factors of poor prognosis. Serum lactate dehydrogenase (LDH) levels have been correlated with tumor aggressiveness (8).

CONCLUSIONS

Primary testicular lymphoma is an aggressive disease, with frequent involvement of the contralateral testis and marked tendency to spread to extratesticular locoregional and distant sites. The soft tissue metastasis without skin involvement and the orbital ones are rare in the literature reviewed as well as the presentation in patients under 60 years.

The main radiological techniques are Doppler ultrasound for the study of the primary disease and MDCT / MR in the evaluation of the extension.

The involvement of the epididymis and/or spermatic cord on ultrasound is highly suggestive of lymphoma. The diagnosis is histological and the treatment is surgical associated with radiotherapy or chemotherapy, being the prognosis poor.
GUIDE WIRE KNOT DURING DOUBLE J CATHETER INSERTION: CASE REPORT

Eduardo Useros Rodriguez, Ignacio Tomas Castillon Vela, Maria Eugenia Leon Rueda and Angel Nellyt Silmi Moyano.


Summary.- OBJECTIVE: To report one case of intrapyelic loop of a guide wire during double J catheter insertion.

METHODS: We report the case of a 24 year-old female, with the diagnosis obstructive uropathy secondary to pelvic tumor who required double J catheter insertion for urinary diversion. A loop of the guide wire was formed during the procedure which was finally solved without aggressive measures.

REFERENCES AND RECOMMENDED READINGS (*of special interest, **of outstanding interest)


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Accepted for publication: April 14th, 2010