constructions and multiplanar images that are of great help in the planning of the therapeutic approach [3].

Once the fistula has been diagnosed, the approach of choice is an attempt of placing a retrograde catheter with a double-J ureteral catheter. If this were not possible, a percutaneous nephrostomy can be performed, and then an anterograde catheter can be placed. The placement of the ureteral catheter accelerates the closure of the ureteral defect, it also reduces the leakage of urine through the fistula, and it provides a fixed area that prevents stenosis during the scarring process. If there is a large urinoma, the cyst must be drained before placing the ureteral catheter, because it reduces the distortion of the proximal and distal segments of the area (8).

**CONCLUSION**

Patients that cannot undergo endourological processes, or that have tried them and failed, must go through surgery [3]. In our case, the patient did not need surgery, and the uretero-vaginal fistula closed spontaneously. However, periodic checkups will be necessary in order to control its evolution.

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**SYNCHRONOUS BILATERAL SEMINOMA**

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**Summary.-** OBJECTIVE: To present a case of synchronous bilateral seminoma and perform a bibliographic review about this rare presentation of testicular neoplasia, with important physical and psychological consequences.

METHODS: 25-year old man with bilateral multifocal testicular neoplasias and azoospermia. We performed a bilateral inguinal radical orchectomy, with the pathologic exam diagnosing bilateral seminoma. Adjuvant lumbar-aortic radiotherapy was initiated. More than a year after the surgery the patient is asymptomatic and without
Resumen.- OBJETIVO: presentar un caso de seminoma bilateral sincrónico y realizar una revisión bibliográfica sobre una presentación poco frecuente de neoplasia testicular.

MÉTODOS: presentamos el caso de un hombre de 25 años con neoplasia testicular bilateral multifocal y azoospermia. Se hizo una orquiectomía radical inguinal bilateral, cuyo examen anatopatológico reveló seminoma bilateral, por lo que efectuó radioterapia lumbo-aórtica adyuvante. Más de un año después de la cirugía, se encuentra asintomático y sin evidencia de enfermedad, pero dependiente de testosterona exógena.

RESULTADOS: las neoplasias testiculares germinativas presentan una incidencia mayor en hombres con 15 a 35 años. En el 2-3 % de los casos se verifica neoplasia bilateral. El tratamiento padrón es la orquiectomía radical bilateral, que ocasiona infertilidad en el paciente y dependencia de testosterona exógena. En nuestro paciente, por tener múltiples tumores bilaterales, no existía otra opción, pero en casos seleccionados se puede efectuar orquiectomía parcial. Siendo muy elevada la incidencia de carcinoma in situ en el restante parénquima, está indicada la radioterapia escrotal. A pesar de la infertilidad secun-

daria al tratamiento, esta opción presenta muy buenos resultados oncológicos y de no dependencia de testosterona exógena.

CONCLUSIÓN: El tratamiento padrón del seminoma bilateral sigue siendo la orquiectomía bilateral, aunque existen otras posibilidades, como la orquiectomía parcial, posible en tumores testiculares únicos de pequeño volumen en hombres con testosterona normal y con posibilidad de vigilancia clínica e imagiológica frecuente. De esta manera se puede disminuir el impacto sobre la calidad de vida, sin alterar el resultado oncológico final.

Palabras clave: seminoma, bilateral, sincrónico, orquiectomía, parcial

INTRODUCTION

Bilateral testicular neoplasia is a rare situation normally treated with bilateral radical orchietomy which has important consequences in men, either on physical or psychological level. We present a case of synchronous bilateral seminoma diagnosed at the emergency service and we make a revision of the literature, aiming to remind about treatments other than bilateral orchietomy.

CASE REPORT

We present a case of a 25-year old man with no pathologic history arrived at the emergency service with a painless left scrotal mass with 2 week evolution. On physical exam there was 2-cm nodule on left testis. Scrotal ultrasonography revealed multiple vascularized hypoechogenic nodular areas on both tests, with 32, 16 and 14 mm on the left (Figure 1) and 9, 4 and 3 mm on the right (Figure 2). The hypothesis of bilateral multifocal neoplasm was reinforced by the presence of testicular microlithiasis.

He was admitted for study and treatment. Serum levels of human chorionic gonadotrophin, alpha-phetoprotein and lactic dehydrogenase were normal. Thoraco-abdominopelvic computed tomography (CT) showed no signs of disseminated disease. Sperm was collected for cryopreservation but the patient was azoospermic; we decided to harvest sane testicular parenchyma during the surgery.

We performed a left inguinal radical orchietomy and sent the tests for extemporaneous exam, revealing seminoma (Figure 3). We continued with right radical orchietomy and separated some apparently sane testicular parenchyma to search for spermatic cells.

Definitive pathologic exam showed neoplasia with towels, nests and fascicles of polyedric cells with
rounded nucleus, prominent nucleolus and multiple mitosis (Figure 4). Immunohistochemistry was positive for placental alkaline phosphatase (PLAP) and CD117 (c-kit). On left testis there were also signs of intratesticular dissemination with multiple interstitial foci of seminoma, including on rete testis, and vascular invasion. Albuginea, epididymis and spermatic cord were free of disease, diagnosing a bilateral seminoma on stage pT2bNxMx. On the other hand, testicular parenchyma had no viable spermatic cells.

Patient started androgen substitution therapy and received adjuvant lumbar-aortic radiotherapy with 27 Gy on 15 fractions.

More than a year after the surgery the patient is asymptomatic, with negative tumour markers and without evidence disease on CT or thoracic X-ray.

**METHODS**

Revision of literature was made through search in PubMed for articles with the words “seminoma”, “bilateral” y “synchronous” published in indexed magazines, which retrieved 35 articles, including 6 review articles. Our work also gathered information from related articles with several bibliographic references on the initial Group of articles.

**DISCUSSION**

Testicular germinative neoplasia happens predominantly in 15 to 35-year old men. On 2-3 % of the cases there is bilateral tumour, more frequently in seminomas (1-4). In Spain, the incidence is reported to be less, about 1% (5).

Bilateral disease could be either synchronous (20-25 %) or metachronous (75-80 %). On synchronous tumours, the majority is diagnosed on early stages (I or II) (6). On metachronous tumours, a man with unilateral germinative neoplasia will have a 500-fold risk of having another tumour in comparison to the general population (3,7,8), with 2 out of 3 being diagnosed on first five years after the first tumour (1,2,9). Some studies report that cisplatin-based chemotherapy for the first tumour could not diminish the probability of a metachronous tumour as it doesn’t eradicate in situ carcinoma (CIS) / intratubular testicular neoplasia (TIN) on the remnant testis, which has an incidence of about 5% (2).

Standard treatment is bilateral radical orchiectomy, which renders the patient infertile and dependent on exogenous androgens, causing multiple psychological problems.

![FIGURE 1. Left scrotal ultrasound with three hypoechoic nodules with 32, 16 and 14 mm.](image1.jpg)

![FIGURE 2. Right scrotal ultrasound: (A) 9 mm nodule; (B) 4 mm nodule close to rete testis.](image2.jpg)
However, in selected cases, there is an alternative. In 1984 Richie described the first partial orchiectomy; the patient got infertile, but without residual disease or need for androgenic supplements (10). Many studies have been done about this intervention, with the German Testicular Cancer Study Group 4 advising the following criteria for selection of patients:

1) Solitary testis / bilateral tumour
2) Solitary tumour;
3) $\leq 20$ mm (or $\leq 30$ % testicular volume, on EAU guidelines) (11);
4) Distance from rete testis;
5) Normal preoperative testosterone and luteinizing-hormone levels.

Our case, having multiple tumours bilaterally, was not eligible for this intervention.

The procedure comprises inguinal incision and cold ischemia, with early clamping of the spermatic cord and immersion on ice for about 10 minutes, keeping the testicle with a temperature of 15-19°C (12). Normally the tumour pseudocapsule permits an easy dissection. Some studies recommend multiple biopsies of the tumour bed and its extemporaneous exam; if there is still neoplasia, a larger excision is done (12). This procedure is supported by the great sensibility and specificity of extemporaneous exam in detection of neoplasia (6,13).

With an 82% incidence of CIS (11) on the remnant testis, which has 50% risk of evolution to neoplasia on the first 5 years (14,15), scrotal radiotherapy is indicated. In spite of always causing infertility, it is possible to spare Leydig cells if radiotherapy doesn't go beyond 18-20 Gy. Men who wish to have children may postpone radiotherapy safely, with some programs reporting paternity rates around 50%, even with compromised spermatogenesis on tubules with CIS and around them (4,15).

Some studies applied treatment protocols with unilateral radical orchiectomy and chemotherapy for the second tumour, showing good oncological results, without significant decrease of androgen production and maintaining fertility (16). On the other hand, they lack of significant number of cases, maintained fertility only applies for men with normal preoperative sperm count (around 25%) 15 and there is still no evidence of CIS eradication by chemotherapy.

Follow-up, more than the normal for a radical orchiectomy, should include testicular palpation and ultrasound which, together, have a 100% sensibility on detection of recurrent disease (8).

In spite of infertility in every patient, there is a good oncological result and independence from exogenous androgens, with obvious physical and psychological advantages. The German Testicular Cancer Study Group has published the larger series with 101 cases. Most of them received adjuvant scrotal radiotherapy (18 Gy). From the 21 who didn’t receive it, there was local recurrence in 4 cases (19%), treated with radical orchiectomy; same treatment was applied to the 2 cases of local recurrence (2,5%) among those who received radiotherapy. With a median follow-up of 80 months, they reported a 99% disease-free rate (one man who didn’t receive radiotherapy and had poor follow-up died after systemic disease progression). Normal testosterone levels were reported in 83,2% of...
patients, with 9.9% developing hypogonadism and 5.9% remaining with their low preoperative levels [4, 17].

More than in bilateral neoplasm, testis-sparing surgery may be indicated in case of benign tumours, incidentally discovered non palpable tumours (with greater probability of being benign) and tumours on paediatric age [13, 18].

CONCLUSION

Bilateral radical orchiectomy still remains as standard treatment for bilateral testicular neoplasia. Although our patient was not suitable for partial orchiectomy, we should enhance this possibility in selected cases of small volume testicular tumours in solitary testis / bilateral tumour in men without preoperative androgen deficiency and who could be object of close clinical and imaging follow-up. This way you could avoid additional loss of quality of life, without any prejudice on oncological results.

REFERENCES AND RECOMMENDED READINGS

(*of special interest, **of outstanding interest)