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Extrusion of a testicular prosthesis: Presentation of a clinical note and review of the literature

Extrusión de prótesis testicular: presentación de un caso y revisión de la literatura médica

Dear Editor,

We present the case of a 23-year-old male admitted to the emergency service of our hospital with a left hemiscrotal mass accompanied by intense pain that had been present for the last two days. The personal history revealed left testicular trauma at 9 years of age, followed by surgical treatment two months later.

Two days before reporting to our hospital, the patient visited his primary care physician due to the presence of a left hemiscrotal mass measuring about 0.5 cm in diameter, and accompanied by cutaneous inflammation. A complicated scrotal sebaceous cyst was diagnosed, and treatment was provided in the form of antibiotics and antiinflammatory medication. Twenty-four hours after starting such treatment, a black scab appeared in the center of the lesion, increasing in size within a few hours; upon detachment of the scab, the testicular prosthetic material was found to be visible.

At physical examination the patient showed no fever and presented normal blood pressure. Partial extrusion of the testicular prosthesis was noted in the upper-external region of the left hemiscrotum, with no signs of inflammation or bleeding (fig. 1). Surprisingly, the patient was unaware that he had undergone left orchiectomy with the implantation of a silicone testicular prosthesis in childhood. The rest of the examination proved normal.

The entire prosthesis was removed under local anesthesia, followed by cleansing of the cavity with 0.1% chlorhexidine and suturing of the skin margins. During the operation, a smooth-surfaced fibrous pseudocapsule was observed surrounding the location of the prosthesis. After 7 days, the surgical wound was found to be in excellent condition. After two months the patient was free of symptoms. He rejected placement of a new prosthesis.

The absence of a testicle may be a traumatic experience for the patient from the psychological perspective, with feelings of inferiority, altered sexual function and effects upon psychosocial development. Such problems in turn are more likely in patients who have lost a testicle than in individuals born without a testicle.

The relative ease of testicle prosthesis implantation, its similarity with the normal testicle, and the few complications involved make it possible to reconstruct an apparently normal scrotum in patients who have either lost a testicle or have been born without a testicle[1].

Indications for testicle prosthesis implantation

The most common causes for indicating prosthesis implantation are testicle agenesis or atrophy. In patients with cryptorchidia, testicle atrophy or agenesis can be seen in up to 10% of all cases. According to a survey of urologists of the western section of the AUA conducted in 1986[2], the indications for orchiectomy and prosthesis implantation are testicle atrophy or failed testicular descent (35%), testicle

Figure 1 – Displaced testicular prosthesis fistulizing to the scrotal skin.

torsion (23%), testicle tumors (17%) and metastatic prostate carcinoma (16%). The last of these indications has now practically disappeared from routine urological practice.

Types of prostheses

Two types of prostheses are currently used: silicone prostheses and prostheses filled with silicone gel or elastomer containing physiological saline solution. As a result of the complications recorded with silicone breast implants, only saline-filled prostheses are currently authorized in the United States[3]. However, there are no studies demonstrating a carcinogenic potential or an increased number of complications with silicone prostheses[4]. For this reason, silicone testicle implants are still used in Europe. These come in three sizes: small, medium and large, and in many cases these sizes do not match the anatomical characteristics of the patient.

There is controversy regarding the ideal timing of implant placement, particularly in children. The prosthesis should be placed at as early an age as possible, in order to avoid traumas during growth. After puberty, implant replacement by another implant more matched to the testicle size at that patient age can be considered. However, if the patient is satisfied with the size of the first prosthesis, second surgery should be avoided.

Techniques

1. Placement in a subcuticular pouch
   This technique was described by Abbassian in 1972[2,5]. It is indicated in those cases in which the vacant hemiscrotum is intensely atrophic or presents scar tissue. A 2-3.5 cm incision is made in the contralateral hemiscrotum, without extending beyond the midline raphe, and a subcuticular pouch is prepared through it. After prosthesis implantation, the raphe is closed longitudinally with absorbable sutures. The main complication of this type of operation is the high percentage of implant extrusions.
2. Trans-scrotal incision, orchiectomy and preservation of the vas deferens
   This technique was described by Solomon[2]. It is carried out in the same surgical step as orchiectomy, but preserving the gubernaculum, the epididymis and cord structures. The technique is contraindicated in the case of testicle tumors. A trans-scrotal incision is made to the opening of the tunica albuginea. Fixation suturing is performed in the tunica vaginalis. The orchiectomy is carried out, with suturing of the prosthesis to the gubernaculum and epididymis. Layered suturing is finally carried out.
3. Inguinal or inguinoscrotal approach
   This procedure was described by Lattimer in 1973[2,6], and is the option most widely used in urological practice today. A low inguinal or high scrotal incision is made at a point located well away from the place in which the implant is to be positioned, in order to avoid the risk of extrusion. A scrotal bag is obtained with two fingers. Allis forceps are used to plicate the base of the scrotum, with inversion using the index finger as a guide. This maneuver allows effective placement of the fixation suture. The mentioned suture is placed in the scrotum, ensuring inclusion of the dartos, but without perforating the skin, in order to avoid infections. This suture is passed through the fixation ring of the prosthesis. The implant is positioned in the base of the scrotum. After checking the absence of skin perforation, the neck of the scrotum is closed with reabsorbable sutures in several layers. In those cases presenting a retracted hemiscrotum, a swab, Foley balloon catheter or Hegar-type dilator can be used to create a larger space in the corresponding hemiscrotum[7].

Complications

The study with the largest number of cases (2500) on testicle implant complications was carried out by Marshall in 1986, based on a survey of urologists who performed this procedure in the United States[1]. Surgical wound dehiscence with extrusion of the prosthesis is the most common complication (3-8%), and occurs in the late postoperative period. Marshall found the largest percentage of this complication to correspond to orchiectomy due to orchiepididymitis -

particularly when a scrotal incision was used for placement of the prosthesis. Likewise, an increased risk of general complications was recorded in those patients subjected to previous scrotal surgery, and also in cases involving a long time interval between orchiectomy and implant placement. Another late complication is a lack of scrotal distensibility, with prosthesis displacement to a higher position (3-5%). The immediate complications include pain (1-3%), hematoma (0.3-3%) and wound infection (0.6-2%). In our patient extrusion of the prosthesis probably occurred as a result of failure in its placement at the point of greatest inclination in the corresponding hemiscrotum, due either to positioning in a high zone or to scrotal retraction with elevation of the implant. Any of these situations would favor scrotal decubitus and/or skin infection facilitating implant extrusion. There have been occasional reports of silicone implant rupture (very infrequent when the implant has not been damaged during surgery)[4], and even a report of spontaneous implant rupture 11 years after placement[8].

Testicle prosthesis placement contributes to lessen the psychological impact in patients who have lost or lack a testicle. Implantation is simpler when performed at the time of orchiectomy. Patients in which restoration is performed in a second surgical step are exposed to an increased risk of complications — the most common problem being implant extrusion. To date no association has been found between the use of silicone prostheses and carcinogenic or immunogenic effects. A careful surgical technique is essential in order to minimize the risk of extrusion.

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