Introduction

Vulvar cancer accounts for 5% of gynecological cancers and 1% of all woman malignancies (1); it affects in particular older women (2). Radical surgery represents the gold standard for the treatment of this neoplasm (3).

Pathologic margin distance is an important predictor of local vulvar recurrence: a 0.8 cm pathology-free margin in the microscopic view, and a macroscopic surgical margin greater than 1 cm are considered the “safe margins” (4-6).

Approximately 30-40% of vulvar cancer patients are in stage III-IV at presentation (7-9). The rate of urethral involvement is not defined in literature, but it is underestimated. When lesions involve distal urethra, patients require partial urethral resection in addition to radical vulvectomy. Urethral resection represents one of the most damaging step of the entire procedure with an increase of overall urinary difficulties as a result of urethral stricture due to pararethral fibrosis. It affects from 2.7 to 8% of females undergoing urethral surgery (10, 11).

In obese vulvar cancer patients with large labia majora, restoring a normal urinary function after surgery becomes more difficult because these patients suffer from urethral stricture caused by post-operative fibrosis and worsened by the large size of labia majora that promotes infections and subsequent dehiscence (12, 13). The local trauma and inflammation represent 7 and 6% respectively of all causes of urethral strictures (14).

Up to now, in literature the labioplasty procedure was applied only for aesthetic reasons with good outcomes (15). We present the first case of labioplasty after radical vulvectomy with partial urethral resection performed in a severe obese patient with a functioning purpose: prevention of urethral strictures.

Case report

In October 2013 a 68-year-old morbid obese woman, with a BMI 47 (16), referred to our Department of Obstetrics and Gynaecology of “Sapienza” University of Rome with a histological diagnosis of infiltrating squa-
mous moderately differentiated vulvar carcinoma. The patient was affected by diabetes mellitus type 2, hypertension, atrial fibrillation and chronic emphysema.

At gynecological examination she had a large protuberant mons pubis and exuberant labia majora (20 x 9 cm) for an unsightly fat deposit and skin ptosis, which caused external genital stenosis, urinary discomfort, difficulties in sexual intercourse and poor hygiene.

She presented a periurethral exophytic friable lump of 20 mm in diameter. No secondary lesions were observed at Total Body Computed Tomography (CT) scan. A detailed informed consent was obtained.

The entire vulva was infiltrated with 200 cc of adrenalin solution (1:400.000). After radical vulvectomy with distal urethrectomy (15 mm), a macroscopically 10 mm of free surgical margins was left. In order to prevent urethral stricture, singles extroflecting stitches of monofilament, poliglecaprone 25 (Monocryl 3-0) were placed.

Then a labioplasty procedure was performed in order to reduce redundant skin tissue, identified and marked with a pen (Figure 1). A bilateral “V” incision was performed in a triangular shape, as described elsewhere (17). Its base was at the level of the medial vulvar edge and its top on the inferior base of labia. Skin and fat resection of this area was sharply removed. Tailor tacking sutures were left in place to verify the tension of remaining skin.

The vulvo-vaginal defect was closed using sub-skin and skin respectively singles stitches of poliglecaprone 25 (Monocryl 3-0) and 2.0 Prolene. Radical surgery was completed with bilateral inguinal lymphadenectomy and two suction drains were left in inguinal sites. Operative time was 130 minutes – labioplasty lasted 25 minutes – no intra-operative complications occurred and the blood loss was 100 cc. She received intra-operative antibiotic prophylaxis. Thromboembolic prophylaxis was administered for 20 days after hospital discharge.

Patient was discharged on the third postoperative day in good health conditions after removing urinary catheter. She was well instructed to self-catheterization and received tips for intimate care. She was closely followed after surgery. She did not experience either necrosis or dehiscence of surgical wound or deep vein thrombosis (DVT). She did not present urinary complications as incontinence or urethral strictures. Drains were removed on the seventh postoperative day.

The final histological examination described a keratinizing squamous cell carcinoma of the vulva with a maximum diameter of 1.5 cm, infiltrating the stroma of both labia minora to a maximum thickness of 0.8 cm, and urethral mucosa for 0.1 mm. The tumour was moderately differentiated. In the adjacent vulvar epithelium a moderate/severe dysplasia (VIN 2/3) was found. Surgical margins were free of tumour. Inguinal lymph nodes were bilaterally free of tumour repetition (FIGO stage 1b).

Thereafter the patient started a program of regular follow up. At the last follow-up, in May 2014, patient showed no evidence of disease and reported a regular urinary flow.
Labioplasty in radical vulvectomy

Discussion

To our knowledge this is the first case of labia majora labioplasty in a morbid obese woman, carried out in order to avoid urethral stricture after radical surgery for vulvar cancer. So far, because urethral strictures are uncommon and high quality studies are scant, the management of these complications in women has been largely empirical.

Periurethral fibrosis after surgical procedures creates an urethral stricture. Moreover in obese patients the labia majora volume contributes to mechanical urethral obstruction (18). Hence by reducing the volume of labia majora, we have attempted to decrease the risk of urethral obstruction and urinary flow dysfunctions. This technique leaves a scar on the labia majora, and this kind of scar tends to generate lateral displacement of the labia majora with a better exposure of the introitus.

In literature the procedure of labioplasty realized in order to treat hypertrophic labia minora or majora seems to have acceptable complications and a good cosmetic outcome (19, 20). Labioplasty technical options include direct excision, lipoplasty and deepithelialization.

In a recent review, Triana et al. summarize labioplasty techniques up to now, with reports of good patient satisfaction and no severe complications, no hematomas, and no necrosis (15). In their series, all patients had improvement of their sexual life and reported no coitus discomfort. Two patients presented local wound infection and six patients who underwent labia majora fat injections had palpable fatty cysts, but these cysts were not painful or visible.

The satisfaction rate was high (92%), and 100% of the patients said they would have the procedure again. Our case shows that labioplasty can be an effective surgical option to prevent urethral obstruction. This technique, realized after radical vulvectomy seems to represent a simple procedure that can improve the overall outcomes, with minimal blood loss and no complications. With our patient, the procedure added 30 minutes to the entire case.

Declaration of interest statement

The Authors declare that there is no conflict of interests regarding the publication of this paper.

References