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CASE REPORT

Urinary Retention in Female after Augmentation Gluteoplasty: A Case Report

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Introduction: There are many well-known complications after gluteal augmentation surgery, such as: seroma, hematoma, capsular contracture, retraction, wound dehiscence etc., but there are some due to nervous damage (especially submuscular pockets with large implants) insufficiently recognized. The **aim** of this case report is to highlight a rare complication (urinary retention) after gluteal augmentation surgery with use of solid silicone implants in case of 41-year-old female. Woman aged 41 with a buttock augmentation with silicone implant (submuscular pocket, 300cc) performed 2 months before at plastic surgery service in Madrid, was admitted in our service, the Clinic of Urology from Tg. Mures, with permanent bladder catheter inserted for urinary retention. **Outcome**: At the admission, two months after the surgery the clinical examination revealed a permeable urinary catheter with clear urine and a fistulisated wound infection localized in the superior 1/3 of the incision in the intergluteal sulcus. Neither neurological or gynecological examination identified any pathology. After the removal of the catheter, next day the abdominal ultrasonography showed a distended bladder, with a postvoid residual urine volume of 320 ml. Urodynamic investigations (uroflowmetry, pressure flow studies) revealed a reduced Qmax. 7,6 ml/sec, underactive detrusor with a reduced BCI value of 60 (bladder contractility index), requiring self-intermittent catheterization, associated with alpha-blockers. **Conclusions**: Buttock implantation is a frequently used plastic surgery procedure with rather high rate of complications, some of them not well identified, unknown such as detrusor underactivity leading to urinary retention.

Keywords: uroflowmetry, urodynamic investigations, urinary retention, gluteal augmentation, buttock implantation

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Introduction

In our days more and more patients request body contouring with increasing applications for enhancing the gluteal region. Augmentation gluteoplasty is a surgical intervention completed in over 21.000 cases/ year in the USA (1) and is performed by using implants, gluteal flaps, lipografting and gluteal lifts (2). The most popular methods involve autologous fat grafting and silicone prothesis (1), that can be solid or semisolid. Buttock augmentation with solid silicone implants are more used in this increasingly popular procedure worldwide, since they cannot rupture, are soft and look and feel natural (3). The sizes of the implants may differ from 250 CC to 275 CC, 300 CC or 350 CC (4).

There still exist discussions regarding the safest pocket in which the implants can be positioned, since the intervention can be performed by placing the implant using a submuscular, sub-fascial, intramuscular or intramuscular XYZ method (5). As for the incisional access, different methods can be used, such as performing a single incision in the gluteal cleft or two separated incisions within the cleft (6).

Despite the popularity of this surgical intervention, buttock enhancement using gluteal silicone implants is a high risk (10 - 38%) procedure (1, 4, 7, 8). Some of the most frequent complications encountered are: wound infections, gluteal prosthesis rupture, seroma (9, 10), hematoma, capsular contracture, retraction (1), overcorrection (4), wound dehiscence, asymmetry (2), implant exposure, malposition, long term numbness of the buttock, implant rippling (2). Gluteal compartment syndrome and transient sciatic paresthesia (1) are rare, but possible complications of gluteal surgery. Concerning the innervation of the gluteus maximus, the motor innervation is performed by the inferior gluteus nerve, a ramification of the sacral plexus (11). Another risk of the surgery can be the dissection inside the muscle during the procedure, too near to the sacrum that can lead to denervation (11). As for the complications regarding micturition following buttock augmentation, the literature doesn't mention any.

Senderroff (2017) states that due to important complications there are cases where a revision should be considered including replacement of the implant, capsulotomy, capsulogrhaphy, site change. (12)

Case presentation

The aim of this case report is to highlight urinary retention following gluteal augmentation with silicone implant in a case of a 41 year old woman, a rather rare complication of gluteoplasty, not well presented by the literature.

A female patient, aged 41, was admitted in the Clinic of Urology Târgu Mureș, Romania having a bladder catheter set for 2 months for incomplete urinary retention, following a gluteal augmentation with 300CC silicone prosthesis implanted in submuscular manner and liposuction under rahianesthesia, performed in an aesthetic surgery clinic in Spain, Madrid. After the surgery, the patient accused voiding hesitancy, weak stream, sensation of incomplete

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voiding and hypogastric pain. Clinical examination and ultrasound revealed a large amount of residual urine and a bladder catheter was inserted. Before the surgery the patient had no urinary complaints.

Clinical examination revealed lumbar and hypogastric region with no pathological findings, a permeable urinary catheter with clear urine and a fistulisated wound infection localized in the superior 1/3 of the incision in the intergluteal sulcus (Figure 1).

The blood analyses had normal values but the urine tests revealed a urinary tract infection with E. coli for which an antibiotic treatment was indicated, according to the antibiogram. Nor the neurological or the gynecological examination revealed any pathological findings.

After the removal of the bladder catheter, an abdominal ultrasonography and uroflowmetry was performed the morning after. Ultrasonography revealed a bladder with high capacity and 320 ml of postvoid residual urine, with no dilatations of the kidney.

The uroflowmetry revealed an irregular, interrupted curve with a rather low Qmax (maximal flow rate) of 7,6 ml/ sec. (Figure 2).

In continuing of the urodynamical investigation, a pressure flow-study was performed. In the filling phase there were no detrusor contractions found and the patient had only a slight sensation of bladder filling at 300 ml. During the voiding phase the detrusor contraction was weak, prolonged with pdet=20 cm H^2O. The Bladder Contractility Index (BCI) (13,14) which characterizes very well the detrusor's ability to contract, was reduced to 60 units (the normal value being over 100 units) (Figure 3).

Based on the above findings a diagnosis of a hypoactive, hypocontractile detrusor, incomplete urinary retention associated with urinary tract infection (E. coli) was established.

At discharge a treatment with antibiotics (Ciprofloxacin), pelvic training, alpha blockers (Tamsulosin) for a month and self-intermittent catheterization was recommended. The follow up performed one month later showed the complete remission of the minor wound dehiscence. Uroflowmetry revealed the same prolonged, interrupted curve with a low Qmax value and 400 ml post-void residual urine. (Figure 4)

The patient was advised to have an aesthetic surgery reevaluation and a revision of the buttock implantation. Since she did not agree to take measures, she is still performing self-intermittent autocatheterisation.

Discussions

Gluteal augmentation still faces strong resistance as well from patients as some surgeons, due to several well-known complications such as seroma, dehiscence, infection, implant displacement, capsule contracture, pain and implant rupture. Sinno conducted a study on over 21.000 procedures and found the following complications in 2375 patients: wound dehiscence (9,6%), seroma (4,6%), infection (1,9%), transient sciatic paresthesia (1,0%) (1). In 2016, Vergara reported complications including: seroma (4%), asymmetry (2,66%), capsular contracture (2%), overcorrection (0,66%) and rupture of the implant in 0,66%. (4)

According to the study conducted by Sinno, the only study in literature that describes neurological complications: transient sciatic paresthesia in 1% of the cases with no references about the bladder activity (1). Moreover, urinary retention in women after gluteal augmentation surgery with silicone implants and liposuction is a complication that isn't analyzed by the literature. Possible causes of this complication can be: rahianestezia, local edema and compression (by large silicone implants of 300 ml) of the peripheral nerves, infection, profound implantation of the silicon, an unappropriated dissection, proximity of the implant to the sacrum which can lead to denervation, alike to the cauda equine syndrome (11). These causes altogether can lead to an acute distention of the bladder, with a high capacity and a large volume of postvoid residual urine, due

Fig. 1. Fistulisated wound granuloma in the intergluteal sulcus (picture taken 2 month after the gluteoplasty), PM female, aged 41

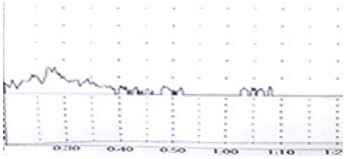

Fig. 2. Uroflowmetry result, PM female, aged 41

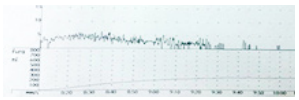

Fig. 4. Revaluation of the post-void residual urine after 1 month (PM female, aged 41)

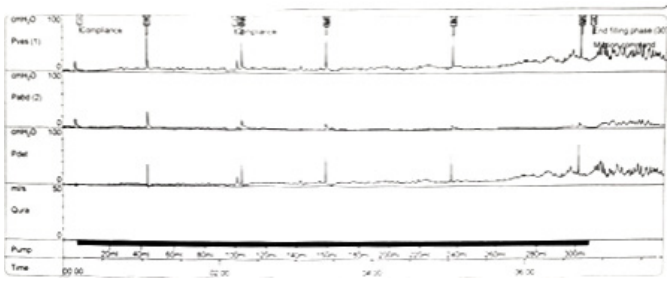

Fig. 3. Pressure-flow study (filling cystometry), PM female, aged 41

to the inefficient contraction of the detrusor. In spite of a careful dissection and an adequate surgical technique, it is still important to have a discussion with the patient about the possible risks during the preoperative consent (13) considering this possible complication.

In 2017, Senderoff published a study in which he denotes the importance of revision of the buttock implantation the replacement after removal, asymmetry or size change. The revision of the implant includes: implant removal (n=24), implant replacement (n=19), implant exchange (n=18), capsulotomy (n=6), site change (n=5), capsulorrhaphy (n=1) (3). In the case presented of the 41-year-old woman with gluteoplasty and secondary urine retention due to detrusor underactivity, a revision of the implant would have been of utmost indication, but unfortunately the patient refused it.

Conclusions

Buttock implantation is a frequently used plastic surgery procedure with a rather high rate of complications, some of which are not well identified, such as detrusor underactivity leading to urinary retention.

However, there is a multitude of technical procedures without any complications, the operative results need to be improved.

Authors' contribution

V.G.- conception and design of the article, acquisition, analysis and interpretation of data

A.F., D.P.H., C.C., T.M.C., V.O.- reviewed the final manuscript

O.M.- conception and design of the article, analysis and interpretation of data, reviewed the final manuscript

Conflict of interest

None to declare.

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