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CASE REPORT

A rare complication of penile prosthesis: Inguinal hernia



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KEYWORDS

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Abstract Inflatable penile prosthesis (IPP) implantation is a successful method for treatment of erectile dysfunction. IPP placements have rare complications. In this paper, we present a highly unusual case of an inguinal hernia as a short-term complication of a 3-piece IPP implantation. The patient was a 55-year-old man with erectile dysfunction due to diabetes mellitus. He presented 3 weeks after implantation with a strong cough. On exploration, the reservoir was seen in direct inguinal hernia sac. After removing the reservoir from the sac, the hernia was repaired with mesh and the reservoir was placed in the space of Retzius again. The patient is symptom free at follow-up.

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PALABRAS CLAVE

Inflable de pene
Prótesis;
Hernia inguinal;
Complicación

Una rara complicación de prótesis de pene: hernia inguinal

Resumen Implantación de prótesis de pene inflable (IPP) es un método exitoso para el tratamiento de la disfunción eréctil. Implantaciones de PPI tienen complicaciones raras. En este artículo, presentamos un caso de hernia inguinal que es una complicación rara ocurriendo a corto plazo después de la implantación de PPI a tres piezas. El paciente era un hombre de 55 años con disfunción eréctil debido a diabetes mellitus. Presentó 3 semanas más tarde después de la implantación con una tos fuerte. En la exploración, el reservoir se observó en el saco de la hernia inguinal directa. Después de retirar el resorvoir del saco, la hernia se reparó con malla

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y el reservoir se fue colocado de nuevo en el espacio de Retzius. No síntomas fueron observados en el paciente al seguimiento.

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Introduction

For treating men with erectile dysfunction, inflatable penile prosthesis (IPP) has been a successful method since the 1970s. With time multiple improvements have been made in prosthesis; malleable penile prosthesis changed with the introduction of inflatable 2 or 3 pieces penile prostheses. However, the increase in number of parts and the connections caused technical and mechanical problems more commonly. Especially dysfunctions of the reservoir can be seen and prosthesis may need to be replaced. The reservoir placement with ventral penile incision is made blindly with finger or scissors dissection. Meanwhile, peritoneal perforation or entering the hernia sac may be possible. In this paper we present a case of reservoir entered into the hernia sac.

The longest penile prosthesis device survival study, with 380 patients, was done by Dhar et al. between 1986 and 2004. In this study 39 patients (10.3%) had device failure because of mechanical problems. Reservoir related problems were very rare, with 3 cases.¹ Another study demonstrating the mechanical reliability of the reservoir is reported by Wilson et al. In this study 395 patients who had IPP implantation in 1988 were evaluated and no reservoir malfunctions were noted.^{2,3}

Case report

A fifty-five-year-old man with diabetes mellitus developed drug and intracavernosal injection refractory ED. He had placement of an AMS 700 CX three-piece penile prosthesis with standard 65 cm³ reservoir via a penoscrotal approach. The space of Retzius was dilated with digital dissection, irrigated with antibiotics and the reservoir was inserted through the left external ring into the space. No hernia was noted before or during surgery. The patient tolerated the procedure well and was discharged home two days later. Seven days later the patient returned with a recent onset of an uncomfortable bulge in his inguinal area that occurred after a strong cough. On examination when the cylinders deflated, bulging of the reservoir in the inguinal region was seen clearly. There were no problem about the cylinders and pump and they were working properly. We decided to relocate the reservoir but the new surgical process was scheduled 3 weeks after to prevent infection and damage to the prosthesis. On exploration a left inguinal incision was made and attempted to reach the reservoir. But it was found to be covered by the fascia. A large inguinal hernia was identified and we realized that the reservoir was placed in hernia sac (Fig. 1). After opening the hernia sac the reservoir left from there and inserted to the space or Retzius again and the

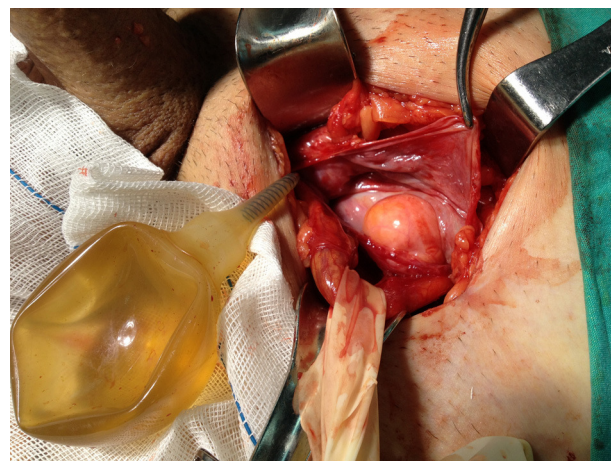


Figure 1 Reservoir placement in hernia sac.

hernia was repaired using a mesh-patch onlay technique. He was discharged home 2 days later and did well with a functional prosthesis and there was no recurrence of his hernia with follow-up of 6 months.

Discussion

Penile prosthesis reservoir complications are rare and mechanical problems or reservoir spontaneous rupture is not seen nowadays. The problems seem to be usually with cylinder, pump or tubing failure after development of the seamless and stemless reservoirs.⁴ A small number of available papers can be accessed by searching for inguinal hernia and prosthesis on PubMed. The reservoir herniation incidence was 0.7%.⁵ But reservoir complications may occur and can be prevented. Conceal and Cloverleaf reservoir modifications can give a chance of alternative locations for easier reservoir placement and better cosmesis.

Reservoir extrusion through the inguinal canal is very rare and usually happens as a result of repetitive Valsalva, which may occur with straining or cough. Sometimes the tubes length between the pump and reservoir is left shorter. In this case the patient is pulling the reservoir caudally from the external inguinal canal while manipulating the pump for inflation and deflation.⁶

Another rare complication is the direct inguinal herniation of reservoir. With or without preexisting tissue laxity, this may develop as a result of dissection and retraction in inguinal canal. Also obesity, having repetitive Valsalva maneuvers because of chronic and obstructive pulmonary

disease or straining to void or defecate are the risk factors for reservoir herniation.

Sadeghi-Nejad et al. reported that the reservoir migrate from the space of Retzius to inguinal canal or scrotum in few patients. Of those who had the migration, it usually happened in the immediate postoperative period, because of strong coughs or vomiting. The treatment consists of repairing of defect and reservoir replacement or repositioning through an inguinal incision. Several surgeons use the scrotal incision again in the immediate postoperative period.⁵ In our opinion although it is the immediate postoperative period, especially in diabetics, the scrotal incision should be waited upon to heal smoothly taking into account the chances of infection. Then, inguinal hernia repairment could be done through an inguinal incision with a wider exposure and better definition.

A modified reservoir placement technique is described by Levine and Hoeh to reduce the creation of inguinal floor weakness and the potential risk of visceral injury. This is a sharp dissection technique to enter the space of Retzius with curved Jorgensen scissors particularly after prior pelvic surgery.⁶

Conclusion

The surgeon should be aware of these rare, but potential complications. Also how they may present and if possible prevent them before occurring. As an alternative method to prevent herniation in immediate postoperative period or due to displacement of reservoir, the closure of tissues between the reservoir and inguinal canal with sutures can be suggested. However, we do not have any experience on this issue.

Ethical disclosures

Protection of human and animal subjects. The authors declare that the procedures followed were in accordance with the regulations of the responsible Clinical Research

Ethics Committee and in accordance with those of the World Medical Association and the Helsinki Declaration.

Confidentiality of data. The authors declare that they have followed the protocols of their work center on the publication of patient data and that all the patients included in the study have received sufficient information and have given their informed consent in writing to participate in that study.

Right to privacy and informed consent. The authors have obtained the informed consent of the patients and/or subjects mentioned in the article. The author for correspondence is in possession of this document.

Conflict of interest

The authors have no conflict of interest to declare.

References

1. Dhar NB, Angermeier KW, Montague DK. Long-term mechanical reliability of AMS 700CX/CXM inflatable penile prosthesis. *J Urol.* 2006;176:2599–601, discussion 2601.
2. Wilson SK, Wahman GE, Lange JL. Eleven years of experience with the inflatable penile prosthesis. *J Urol.* 1988;139:951–2.
3. Wilson SK, Delk JR, Salem EA, Cleves MA. Long-term survival of inflatable penile prostheses: single surgical group experience with 2384 first-time implants spanning two decades. *J Sex Med.* 2007;4:1074–9.
4. Montague DK. Experience with semirigid rod and inflatable penile prostheses. *J Urol.* 1983;129:967–8.
5. Sadeghi-Nejad H, Sharma A, Irwin RJ, Wilson SK, Delk JR. Reservoir herniation as a complication of three-piece penile prosthesis insertion. *Urology.* 2001;57:142–5.
6. Levine LA, Hoeh MP. Review of penile prosthetic reservoir: complications and presentation of a modified reservoir placement technique. *Sex Med.* 2012;9:2759–69, <http://dx.doi.org/10.1111/j.1743-6109.2012.02807.x> [Epub 06.06.12].