

Introduction

- Total penectomy results in a disfiguring anatomic situation which may have a significant effect on the patient's corporal image and psychological well-being.
- We report a unique case of phallic reconstruction by transposing the right testis into the preserved penile skin following cystoprostatectomy and penectomy for a tumor involving the penile urethra.

Case

- A **69 year-old man** with a complex oncologic and urologic history.
- Past oncological history: IgG Kappa multiple myeloma (in sustained remission), acute B-cell lymphoblastic leukemia (under close monitoring), and a recently diagnosed localized intermediate-risk prostate cancer (ISUP grade 2) under active surveillance.
- Presented with **voiding lower urinary tract symptoms, discomfort while walking, a sensation of a perineal mass** (confirmed on clinical examination), and erectile dysfunction. Perineal MRI (Fig. 1) revealed **a tumor involving the penile and bulbar urethra, with bilateral invasion of the corpora spongiosa and cavernosa**. Biopsy confirmed a **sarcomatoid urothelial carcinoma of the urethra with osteosarcomatoid differentiation**. No metastases were detected on the staging workup.

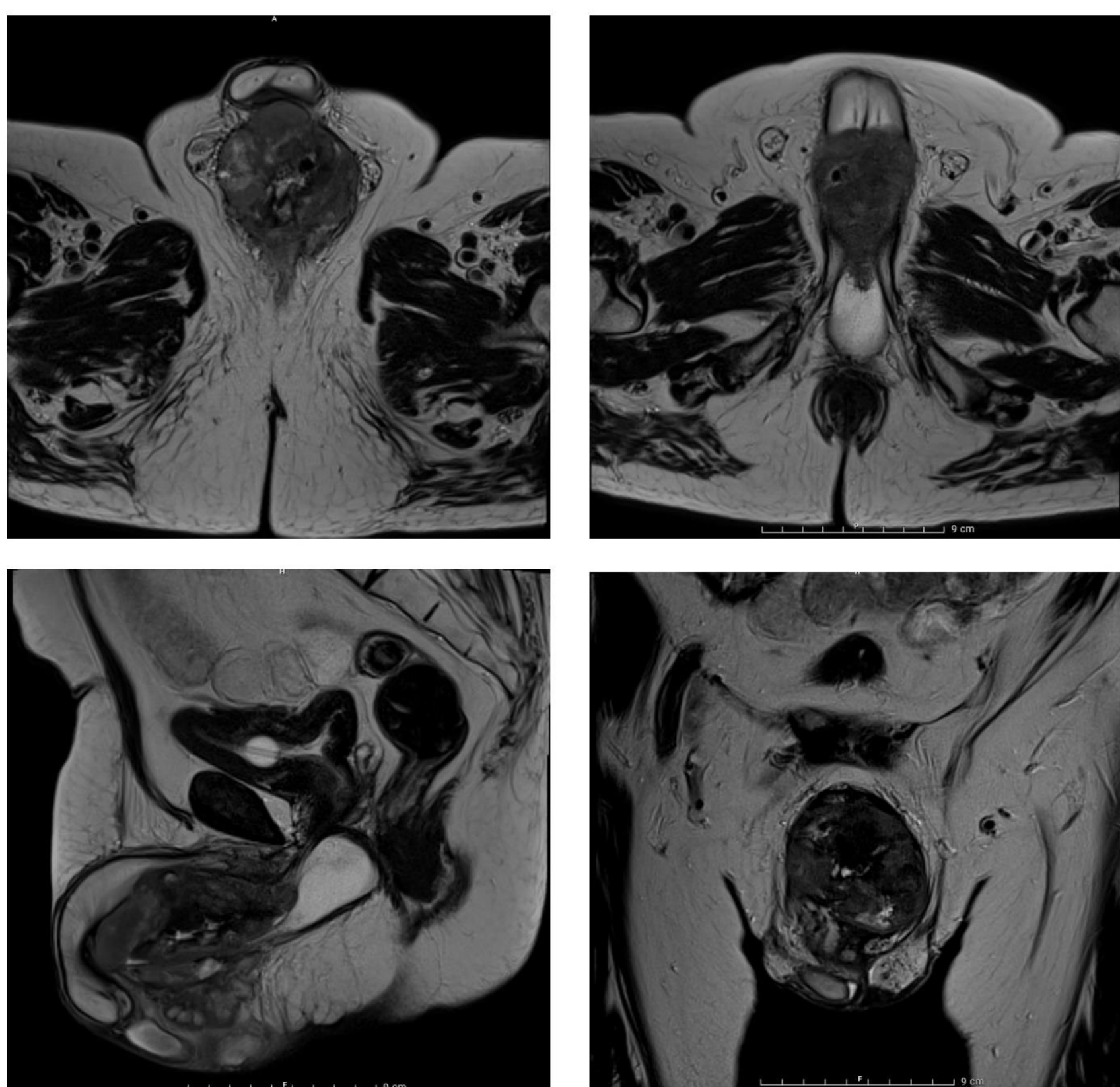


Figure 1 : Perineal MRI showing the urethral tumor invading the corpora spongiosa and cavernosa

- Primary systemic treatment with nivolumab, gemcitabine, and cisplatin at the initial center failed to reduce the tumor. The patient was then referred to our center for surgical management. He **strongly opposed disfiguring surgery and was particularly concerned with preserving a phallic appearance**, though he accepted the idea of a urinary stoma.

- We performed a **robot-assisted laparoscopic cystoprostatectomy and total penectomy en bloc** (Fig. 2a), with specimen extraction via the perineal incision. **The penile skin was preserved using an inverted degloving technique. Phallic reconstruction was then carried out by transposing the right testicle into the preserved penile skin** (Fig. 2b).



Figure 2 : a. En bloc cystoprostatectomy with total penectomy – surgical specimen. B: The right testis is transposed into the remaining penile skin and the left testis is used to maintain the appearance of a scrotum

- The left testicle was fixed inferiorly to maintain the appearance of a scrotum. An intracorporeal robotic Bricker urinary diversion was finally performed. The procedure was completed without intraoperative complications. Figure 4 shows the final post-operative result.



Figure 4 : Final post-operative result

- **Postoperative recovery was uneventful**, except for a transient paralytic ileus that resolved spontaneously, and the patient was discharged at day 10. **No pain was reported at the reconstructed phallus (testis).**
- Histopathological examination confirmed a **high-grade sarcomatoid urothelial carcinoma of the penile urethra**, characterized by **diffuse spindle cell proliferation, extensive necrosis, and deep infiltration of the corpora cavernosa and adjacent soft tissue**. Molecular analysis revealed TERT, TP53, and PTEN mutations. All surgical **margins were negative**. Additionally, the known prostatic adenocarcinoma (Gleason score 3+4, ISUP grade 2) was confirmed, confined to the left lobe.
- At 1-month follow-up, the patient remained pain-free and reported high satisfaction with the preservation of anatomical appearance. Body image evaluation demonstrated maintained self-esteem and relational quality, with no negative feedback from the partner.

Conclusion

Preserving phallic anatomy can be of paramount importance for some patients undergoing radical urological surgery. To our knowledge, this is the **first published case of en bloc robot-assisted cystoprostatectomy and total penectomy followed by phallic reconstruction using a testis**. This innovative approach led to **good functional and psychological outcomes and a high level of patient satisfaction**.