

Successful Macrosurgical Reimplantation of an Amputated Penis

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INTRODUCTION

Self-mutilations of the external genitals in psychiatric patients is also known as *Klingsor syndrome*.⁽¹⁾ These patients show a high tendency to repeating self-aggressive actions, especially when their medical therapy is discontinued.^(2,3) In 1929, Ehrlich reported the first successful penile reimplantation of an amputated penis.⁽⁴⁾ Although reimplantation of the amputated penis has a high success rate, there may be some remaining squeals such as skin necrosis and urethral stricture or fistula.⁽⁵⁾ We report a case of a macroscopic reimplantation of an amputated penis.

CASE REPORT

A 30-year-old man, previously diagnosed with schizophrenia, came in to the emergency room after attempting suicide by penile amputation with a razor blade. The time elapsed between amputation and arrival at the emergency room was about 8 hours. The amputated specimen had been found by the paramedics and placed in a large

basin containing saline solution. We found a clear-cut through all penile structures without major lacerations. The amputated penis was carefully cleaned until all visible contaminants and coagulated blood had been removed. There were diffuse bleedings from the cavernosal bodies and an arterial and venous bleeding from the dorsal vessels.

Immediately a reimplantation of the amputated penis was attempted. We aligned the amputated part with the stump in as natural a position as possible (Figure 1). The septum that separated the two corpora cavernosa was sutured using 3-0 vicryl catgut. Each corpus cavernosum was anastomosed using interrupted 3-0 vicryl catgut sutures. The tunica albuginea was



Figure 1. Realignment of the amputated penis with the stump.

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brought together using interrupted 3-0 vicryl catgut sutures. The deep dorsal vein of the penis was anastomosed using 8-0 nylon sutures. Anastomosis of the urethra together with the corpus spongiosum was then performed using 6 interrupted sutures of 4-0 vicryl catgut. A 16-F silicone balloon catheter was used as a splint. A suprapubic cystostomy was done to divert urine flow temporarily (Figure 2).

The operative time was 2 hours. Postoperatively, the patient received broad-spectrum antibiotics and low-molecular-weight heparin. On the 2nd postoperative day, color Doppler ultrasonography of the penile shaft showed low-resistance arterial blood flow and normal venous flow distal to anastomosis. On day 5, necrosis was observed at the base of the penile skin, inferiorly between the penis and the scrotum that propagated distally to the subglandular area after 3 days. On day 9, another color Doppler ultrasonography of the penile shaft showed the same arterial and venous blood flows as observed on day 2 (Figure 3). The necrotic tissue was superficially debrided, and the corresponding urethral segment was determined to be intact. Two weeks later, granulation tissue developed and a mesh-graft transplantation of skin taken from the forearm was performed. The Foley catheter was removed after 3 weeks, and retrograde urethrography showed no leakage;



Figure 2. Final appearance of penile reimplantation.

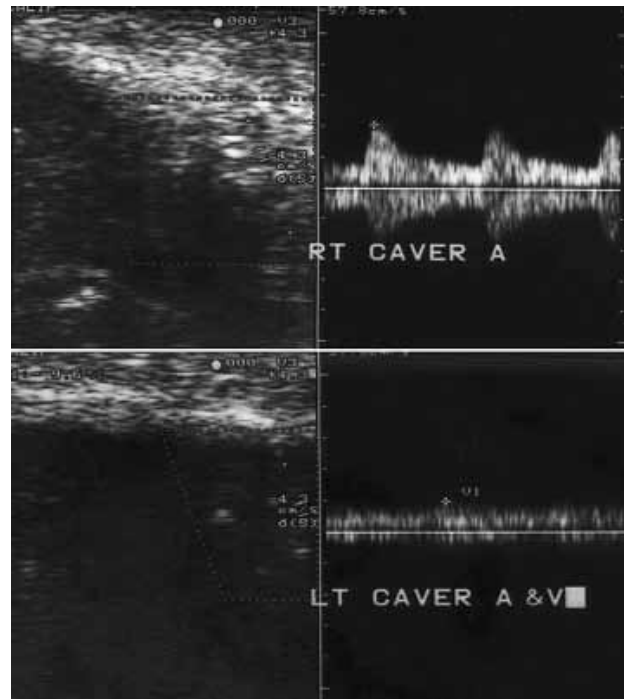


Figure 3. Color Doppler ultrasonography of the penile shaft.

therefore, the cystostomy tube was clamped and then removed. Examination 3 months later revealed a normal-appearing penis with mild meatal stenosis which responded to dilation. Erectile function could not be adequately evaluated because of the patient's psychiatric condition. Voiding function was normal.

DISCUSSION

The results of penile reimplantation efforts are related to at least 2 factors: the completeness of the amputation and the technique of reimplantation. Complete amputations, both experimental and clinical replanted without specific microneurovascular anastomosis, such as our case, all develop some degrees of skin slough and are frequently complicated by urethral fistulas and diverticuli⁽⁶⁾; however, these complications did not occur in our patient. The possible mechanisms resulting in skin necrosis are prolonged ischemic time, hematoma, and inadequate circulation. In practice, the wound edge oozing into the space between the prepuce and tunica albuginea cannot be drained effectively. The foreskin was gradually detached from the shaft deep fascia. Increased pressure compromised the circulation of prepuce and

resulted in skin necrosis.⁽⁷⁾ It is agreed that the use of microsurgical technique for penile reimplantation can give better outcome when compared with nonmicrosurgical technique for penile preservation. Microscopic methods provide better circulation in wound healing and decrease the risk of complications.⁽⁸⁾ However, such techniques require special equipment, instruments, and training which were not readily available. Efforts have been made therefore to develop a simple and standard technique of management that could be performed by any urologist.⁽⁹⁾ The survival of the penis and its functions depend, no doubt, on the unique penile vascular system. It was reported that the viability of the amputated part proved to be surprising. Eight hours was the longest period of time between the incident and successful surgical repair,⁽⁹⁾ like in our case. The final cosmetic and functional results of the macroscopically replanted penis were gratifying.

In patients with self-emasculation, it is sometimes difficult to answer the question, if it was a failed suicide or a successful male self-amputation. In the early postoperative course, there remains an increased risk of self-mutilation of the replanted penis until the optimized therapy has been prescribed. Auto-aggressive actions can be prevented by adequate psychiatric medical therapy.⁽¹⁰⁾ Penile reimplantation using the remaining stumps of the corpora cavernosa should be the first line therapy in patients with traumatic loss of the penis. It restores the functional and

cosmetic aspects of the organ. Reimplantation of the penis must be attempted when the amputated organ is recovered. A macrovascular technique is recommended, as it can be performed in any general hospital with an acceptable result.

CONFLICT OF INTEREST

None declared.

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