

## CASE REPORT

# A successful microsurgical approach to treating penile amputation following genital self mutilation

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## Abstract

We present the case of a 33-year-old male who presented to the Emergency Department having amputated his penis as a result of auditory hallucinations triggered by cannabis use. A successful microsurgical technique involving anastomosing the individual structures of the penile shaft enabled a successful cosmetic and functional outcome including restoration of erectile function.

## INTRODUCTION

Genital self mutilation (GSM) is rare yet reported cases appear to have increased in recent years [1]. The literature on GSM transcends all cultures and races; the highest reported incidence is in Caucasian males in aged 20–30 [2]. Since the 1960s it has been considered that those inflicting GSM broadly fall into three categories; those diagnosed with schizophrenia, transvestites (or those considered to be affected by gender dysphoria [3]) and those with complex cultural or religious beliefs [4]. Greilsheimer and Groves [2] reported 87% of patients to be psychotic at the time of performing the act of GSM. There is wide variation in the severity of injury inflicted ranging from partial lacerations to complete amputations of the external male genitalia. The instruments used vary from blades, knives and scissors to a chainsaw and soup can lid [1].

We present our experience of a multidisciplinary approach to treating a self inflicted penile amputation and the successful outcome following a microsurgical approach involving both urology and plastic surgical teams.

## CASE

A 33-year-old male presented acutely having amputated his penis with a kitchen knife. His past history included auditory

hallucinations secondary to cannabis use. On arrival in the Emergency Department he was conscious and normotensive with a pulse of 94. He had minor lacerations to his abdomen, and a bleeding penile stump (Fig. 1).

The severed penis (Fig. 2) had been retrieved and placed on ice by the emergency services. He was resuscitated with fluids and initial bloods revealed a haemoglobin of 12 g/dl and a normal renal profile.

The patient was taken to theatre and underwent a cystoscopy, suprapubic catheter placement and spatulation of the urethral stump in two layers and anastomosis with 6.0 vicryl by the Urological Surgeons. Subsequent penile re-implantation was undertaken by the Plastic Surgeons with a total ischaemia time of 8 h (Fig. 3). The wound edges were excised and tunica albuginea closed with 3'0 Polydioxanone (PDS) sutures. The dorsal superficial vein and nerve were anastomosed using a microsurgical technique with 9'0 Ethilon. The dorsal deep vein was treated identically and the deep arteries were re-approximated with 10'0 Ethilon. Two drains were placed and the skin closed with 4'0 vicryl. The wound was dressed with Jelonet and gauze (Fig. 4).

Post operatively the patient was placed on strict bed rest and reviewed by the Psychiatric, Plastics and Urology teams. He

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Figure 1: Image showing patient's injuries at time of presentation.



Figure 2: Distal amputated penis.



Figure 3: Reattachment of penis with suprapubic and urethral catheters in situ along with wound drains.

continued to have visual and auditory hallucinations on the ward and required 1:1 nursing due to the on going risk of self-harm. He was diagnosed with severe psychosis and schizophrenia by the Psychiatry team.



Figure 4: Post-operative wound dressings.

The patient's penile shaft remained a normal colour, with excellent blood flow, and his wound healed quickly (Fig. 5, 2 weeks post op). On discharge he was transferred to a Psychiatric unit due to ongoing psychosis.

At 8 weeks review by Urology and Plastics the wound had healed well (Fig. 6). Peri-catheter urethrogram (Fig. 7) demonstrated no leak or stricture and the patient was able to void spontaneously with an excellent flow rate to completion therefore both catheters were removed.

One year post injury the patient was seen by an Andrology specialist due to anejaculation. However, he was voiding with no problems, had spontaneous and stimulated erections, masturbated regularly to climax and had penetrative intercourse. It was felt that he was unable to ejaculate secondary to his Olanzapine and he was discharged with no further follow up. He has made an excellent recovery.

## DISCUSSION

Patients presenting with GSM often require urgent resuscitation. This should be followed by prompt penile re-implantation of the distal segment if it is suitable for reattachment ideally with a total ischaemia time of <16 h [5] although re-implantation has been reported up to 24 h post injury [9]. In the majority of cases once the underlying psychiatric illness has been successfully treated, there is usually a desire to preserve the penis and sexual function [6].

The aim of re-implantation should be:

- Functional anastomosis of the urethra
- Restoration of spontaneous erectile function
- Preservation of the testes to provide normal androgen production

The dorsal penile arteries arise from the internal pudendal arteries and give off bulbar, cavernosal and urethral branches. The previously described macrosurgical approach relied on anastomosis of the corporal bodies and the subsequent corporal sinusoidal blood flow within the distal amputated part [7]. Complications with this technique can include skin necrosis, fistula formation, loss of penile sensation and erectile dysfunction [7, 9]. More recent descriptions of microsurgical anastomosis include anastomosis of the dorsal penile arteries and veins individually, along with other shaft structures. This provides early restoration of blood flow and improved likelihood of graft survival, return of normal erectile function and decreased complications [8, 9]. This was demonstrated in our



Figure 5: Continued wound healing following removal of drains.



Figure 6: Final result.



Figure 7: Post-operative peri-catheter urethrogram.

reported case as the patient made an excellent functional recovery with return of sensation and normal erectile function.

We did not encounter any issue with venous congestion endangering the graft as has been reported elsewhere [10]. If microsurgical techniques are not available, then a corporal reattachment technique should still be offered as organ preservation remains paramount [7].

Factors that appear to favour a good outcome with a microsurgical approach are the degree of injury, the type of injury sustained (crush or laceration), the length of warm ischaemia time and the experience of the operative team [7]. Psychiatric illness should not be regarded as a contraindication to re-implantation as it remains superior to reconstruction [9]. However, as in this case, patients can be difficult to follow up long term due to on going mental health issues. This makes it imperative that the optimal treatment with the lowest potential for complications is provided at the time of injury.

## CONCLUSIONS

GSM is challenging to treat as it is a multi-faceted illness requiring expertise from Plastics, Urology, Psychiatry and support from Primary Care in the community. The early emphasis should be on the resuscitation and stabilization of the patient followed by microsurgical re-implantation of the amputated penis. The ability of microsurgical techniques to yield a cosmetically successful and functional outcome, make it the gold standard in treating this type of injury.

## CONFLICT OF INTEREST STATEMENT

None declared.

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