

Penile Strangulation: A Novel Surgical Procedure without Cutting Equipment

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Strangulation of the penis is a rare condition that usually results from the placement of various constricting devices to enhance sexual stimulation. Such a condition requires emergency treatment to prevent penile ischemia, necrosis, urethral injury, and erectile dysfunction. This paper reports the case of a 51-year-old man who was referred for penile pain and swelling following the self-placement of an industrial metallic ring at the base of the penis. The metallic ring was removed safely without using specialized equipment.

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Strangulation of the penis is a rare condition that is usually caused by the placement of various constricting devices to enhance sexual stimulation. This condition requires emergency treatment to prevent penile ischemia, necrosis, urethral injury, and erectile dysfunction. Non-metallic and thin metallic devices can be removed easily by cutting, whereas thick metallic devices require a specialized saw or electrical cutting machine, which are unfamiliar and dangerous equipment for urologists. This paper reports the case of a 51-year-old man who was referred for penile pain and swelling following the self-placement of an industrial metallic ring at the base of the penis four days before presentation to

the hospital. The metallic ring was removed safely without using specialized equipment.

CASE REPORT

A 51-year-old man was referred for penile pain and swelling following the self-placement of an industrial metallic ring at the base of his penis four days earlier. His medical history was unremarkable. A physical examination revealed extensive edema of the penis distal to the metallic ring. The ring had an internal diameter of 30 mm, an external diameter of 55 mm, and a thickness of 25 mm (Fig. 1A). At the hospital,

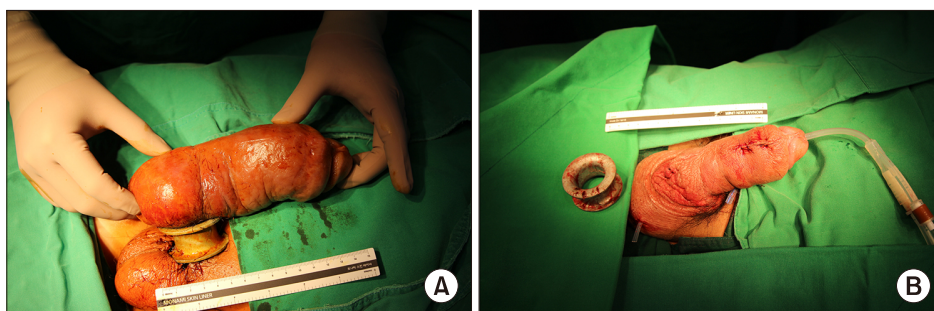


Fig. 1. (A) Thick metallic ring is strangling the penis. Note the extensive penile edema. (B) The thick metallic ring was removed successfully and safely.

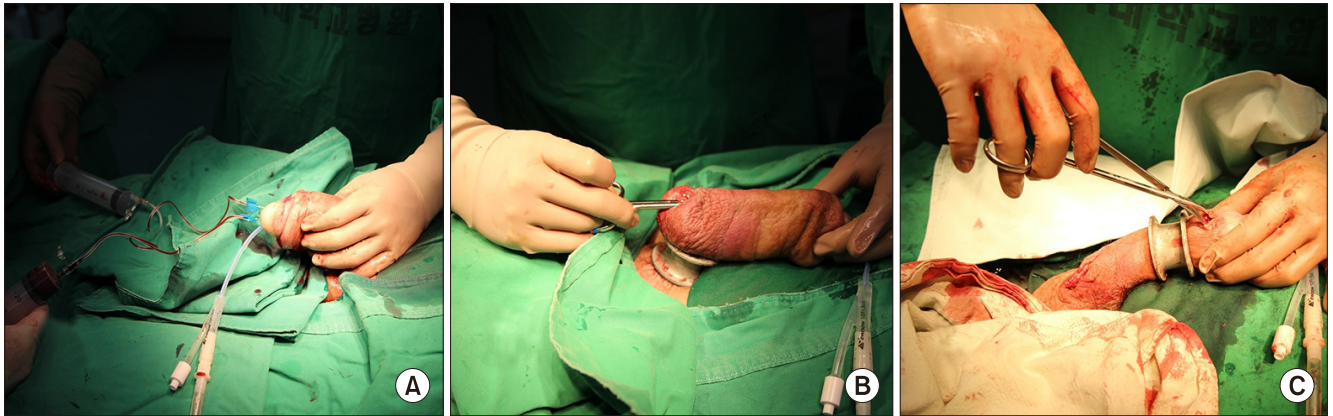


Fig. 2. Surgical procedure. (A) Aspiration the blood from the erectile tissue. (B, C) Incision and edematous fluid drainage at the proximal and distal penis.

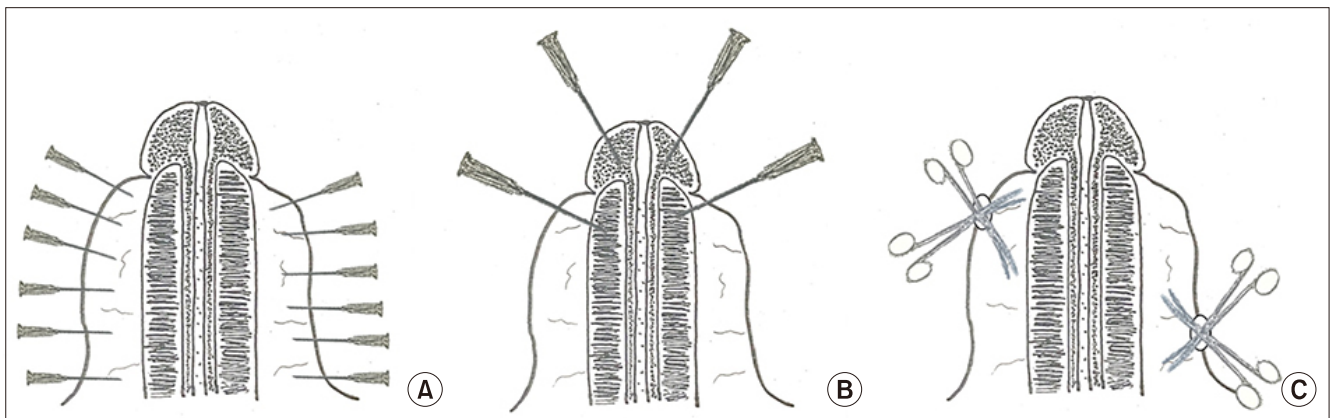


Fig. 3. Schematic diagram of the surgical procedure. (A) Multiple needle pricks on the penile skin. (B) Aspiration the blood from the erectile tissue. (C) Incision and edematous fluid drainage.

there was no special equipment to cut the ring, which was quite hard. After explaining the procedure to the patient, a decision was made to remove the metallic ring by resolving the edema of the penile skin and aspirating the blood from the erectile tissue.

Under spinal anesthesia, the patient was placed on the table in the supine position. The operating field was prepared using alcohol and betadine. In particular, a thin cotton swab was used to wipe the area between the ring and skin as much as possible. Third-generation cephalosporins and aminoglycosides were administered as prophylactic antibiotics. As the first step, multiple needle pricks were made on the penile skin using an 18-gauge needle to reduce the edema. In the second step, each of the two 24-gauge needles was placed in the corpus spongiosum and corpus cavernosum to remove blood from the erectile tissue. Even after the above two steps were carried out, the metallic ring could not be removed. Finally, approximately 1-cm incisions were

made in the distal and proximal parts of the penis. To break up the edematous fluid loculations, blunt dissection of the edematous skin was performed using blunt scissors through the incision sites. Gentle pressure was then applied to the penis by hand, and the serosanguineous fluid was drained through the incision sites (Fig. 2, 3). After this process, the metallic ring was removed successfully. A silicone drain was placed in the proximal and distal parts of the penis, and the incision sites were repaired using 3-0 Nylon sutures (Fig. 1B). Three months later, the patient had no problems concerning the penile skin or erectile function.

DISCUSSION

Penile strangulation is a rare condition that requires immediate treatment. To date, penile constriction rings have been removed using cutting equipment in almost all cases. On the other hand, such cutting equipment is unfamiliar

and dangerous for urologists [1]. A small number of cases reported ring removal using the Dundee technique with blood aspiration from the erectile tissue [2-4]. The two techniques described above were performed, but the ring could not be removed. To remove the large amount of subcutaneous edema remaining, two incisions were made on the penile skin, and the edematous fluid was drained. To the best of the author's knowledge, drainage of the edematous fluid after an incision of the penile skin in penile strangulation has not been attempted previously. After the incision and drainage technique, the edema of the penile skin was resolved effectively, after which the ring was removed quickly.

The metallic ring was removed safely and successfully using a unique surgical procedure. Because penile strangulation is a rare situation, this surgical procedure has only been performed once. It is hoped that other urologists can perform this surgical procedure in the future and that the safety and effectiveness of the procedure can be verified.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

AUTHOR CONTRIBUTIONS

Y.G.K. participated in data collection and wrote the manuscript. Y.G.K., Y.S.S., and J.H.Y. participated in the study design and performed the statistical analysis. J.H.Y. participated in the study design and coordination and helped to draft the manuscript. All authors read and approved the final manuscript.

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