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Case Report

Paraffin Granuloma Associated with Buried Glans Penis-Induced Sexual and Voiding Dysfunction

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A paraffinoma is a type of inflammatory lipogranuloma that develops after the injection of an artificial mineral oil, such as paraffin or silicon, into the foreskin or the subcutaneous tissue of the penis for the purpose of penis enlargement, cosmetics, or prosthesis. The authors experienced a case of macro-paraffinoma associated with sexual dysfunction, voiding dysfunction, and pain caused by a buried glans penis after a paraffin injection for penis enlargement that had been performed 35 years previously. Herein, this case is presented with a literature review.

Key Words: Granuloma; Oils; Paraffin; Penis

A paraffinoma is a type of inflammatory lipogranuloma that develops after the injection of an artificial mineral oil, such as paraffin or silicon, into the foreskin or the subcutaneous tissue of the penis for the purpose of penis enlargement, cosmetics, or prosthesis [1]. In particular, as this procedure is performed illegally by non-medical personnel in an unsterilized environment or with non-medical agents, cases of adverse effects, such as infection, skin necrosis, pain, allergic reactions, incarcerated paraphimosis, and epidermal cysts have been reported [2,3].

Foreign bodies or materials have been injected into the human body since ancient times, but this technique became widely known after a report by Robert Gersuny, a surgeon in Vienna, Austria, in 1899 on the injection of mineral oil (Vaseline) for the purpose of testicle substitution in patients who had received a bilateral orchiectomy because of tuberculous epididymitis [1,3].

However, various types of adverse effects were subsequently reported by several investigators, and such procedures gradually became less common [3-6]. Paraffin injections display outcomes consistent with the purpose of the procedure in early stages, but over time, the foreign matter migrates from the primary injection site to nearby tissues or even along the inguinal lymphatic vessel. The migrated foreign matter can be associated with nodule formation or inflammation, resulting in a so-called foreign body granuloma, which causes tissue necrosis due to the secondary impairment of blood flow and loss of normal anatomic structures, which can make it very difficult to remove the lesion and reconstruct the area surgically [7].

The authors experienced a case of macro-paraffinoma associated with sexual and voiding dysfunction with pain

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caused by a buried glans penis after a paraffin injection for penis enlargement that had been performed 35 years previously. Herein, this case is presented with a literature review.

CASE REPORT

A 64-year-old man visited our hospital with penile pain and voiding dysfunction. The patient had received a paraffin injection procedure performed by non-medical personnel (a friend) for penis enlargement 35 years previously in Japan. After the injection, he had experienced sexual dysfunction due to a buried glans penis, penile curvature during erection, and intravaginal penetration impairment. Voiding dysfunction was also present, with urine spotting and loss of urine flow due to preputial ring stenosis caused by a paraffin granuloma. He visited the hospital due to having experienced exacerbated voiding dysfunction over the course of 6 months, associated with pain of the pelvis and penis. He was not able to engage in any sexual activity at all. His past history indicated that he had received a colorectal polyp removal procedure a year previously. He had been diagnosed with hypertension 5 years ago and was currently taking aspirin. No specific findings were obtained from a general blood test, urinalysis, liver function test, hepatitis test, syphilis test, or a serum test for AIDS. We did not find any causative factors, such as prostatic hyperplasia, urethral stricture, or neurological diseases related to voiding dysfunction. On his physical examination, the penis foreskin injected with paraffin had the shape of a penis glans, making it impossible for posterior retraction to denude the glans penis, and the actual penis glans was not palpable, as it was completely embedded in the paraffin granuloma. The urinary meatus was also not confirmed. The preputial and penile shaft skin around the injection displayed a typical appearance of paraffinoma, and no bilateral inguinal lymphadenopathy was found (Fig. 1).

In the magnetic resonance imaging findings, the penile paraffinoma induced a heterogeneous signal that was observed from the glans as well as from the distal part of the penis. The more or less increased enhancement of the urethra and urethra spongiosum in addition to the buried penis glans was assumed to be an inflammatory change (Fig. 2).

A phalloplasty was performed using a scrotal flap following paraffin granuloma removal under spinal anesthesia. The volume of the resected paraffinoma was 8.5×6.0×5.5 cm, and its weight was 195.7 g (Fig. 3). A histopathologic examination showed variably sized globules separated by sclerotic stroma and associated with inflammation (Fig. 4).

At present, 3 months after the procedure, no findings of recurrence have been observed and the patient's sexual function has normalized, in addition to the resolution of voiding dysfunction (Fig. 5). The patient scored a total of 24 out of a possible score of 25 on the International Index

Fig. 1. Preoperative appearance of the penile paraffin granuloma with an augmented penile shaft and pseudoglans due to the paraffin lump.

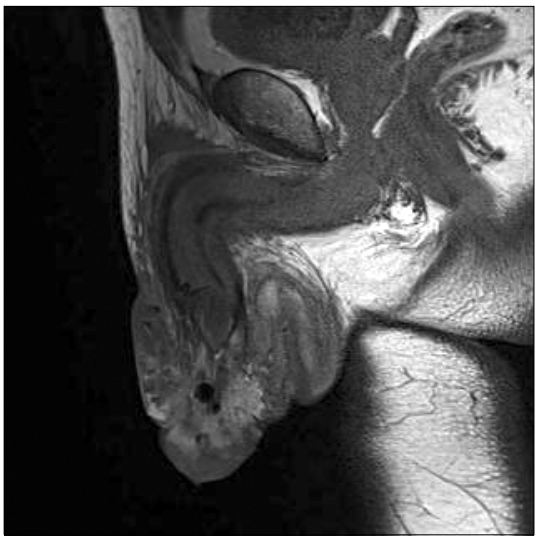

Fig. 2. Spongiositis and urethritis due to penile paraffin granuloma.

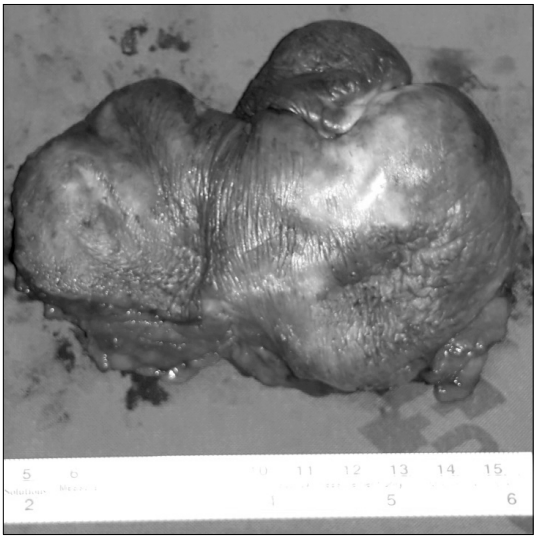

Fig. 3. The resected paraffin granuloma.

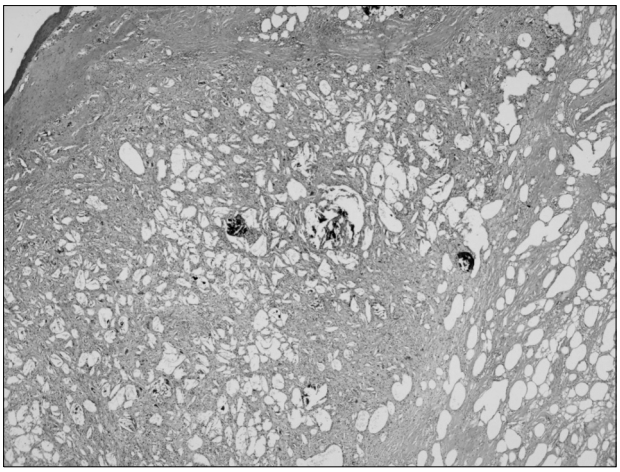

Fig. 4. Microscopic findings of the paraffin granuloma with sclerosis (H&E, ×40).

of Erectile Function-5 at 4 weeks postoperatively, indicating that he had no problems regarding sexual function.

DISCUSSION

A foreign body granuloma can develop, mainly in hard and flat forms, in various body parts where a foreign body or material has been externally injected. For the diagnosis of a paraffin granuloma, the investigation of the patient's medical history is more important than any other medical examination. The foreign materials most commonly used in such injections include paraffin, Vaseline, and mineral oil [3]. Paraffin injections into the penis are mostly performed by non-medical personnel. The most effective and adequate treatment method to minimize adverse effects and to prevent recurrence is complete excision of the foreign body granuloma and necrotic tissues, including the injected substance. It should be noted that no records exist of such foreign materials disappearing either by natural absorption or by dissolution [3,8,9].

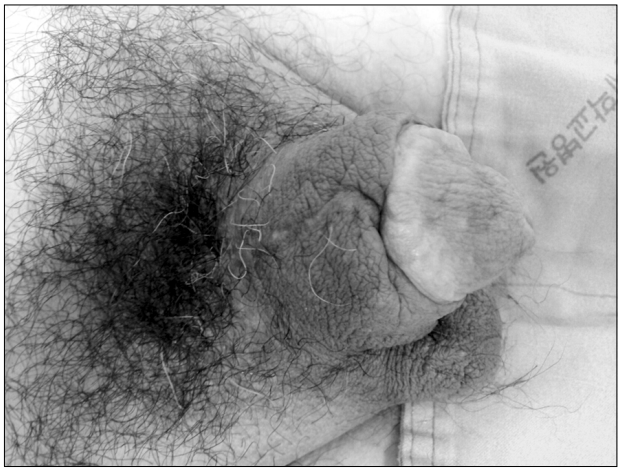

Fig. 5. The state of the patient 3 months after removal of the paraffin granuloma and reconstruction with a scrotal skin flap.

Currently, the injection of foreign bodies such as paraffin is not a procedure officially recognized by medicine due to the presence of many adverse effects. In particular, when an excessive amount is injected for penile enlargement or an inappropriate site is selected as the target of the procedure, severe adverse effects in the penis may occur, which can cause not only morphologic deformation, but also functional impairment with regard to normal sexual activities or voiding function [5]. In this case, the urinary meatus was not exposed because of the stenosis-like condition in the preputial ring, and urine retention occurred inside the preputial cyst, resulting in repetitive balanoposthitis and findings associated with intrapreputial smegma or calculus. The glans penis was tightened due to the deformation of the foreskin and preputial ring into an irreversibly rigid form because of the lipogranuloma. Intravaginal penetration was impossible due to the weight of the paraffinoma as well as the tortuous deformation of the penile shaft by the paraffinoma during erection. Thus, the patient had a noteworthy medical history, as he had given up on sexual activities after undergoing this procedure in his early 30s.

Under the current circumstances, in which men still yearn for a larger penis and have expectations that penis enlargement procedures can allow them to acquire a larger penis, men planning to undergo a penis enlargement procedure may be a potential risk group for adverse effects. Instead of the expected postoperative psychological satisfaction or functional improvements, unimaginably severe adverse effects can occur after the application of any material or technique that does not conform to medical standards [10]. Therefore, minimally invasive and economic penis enlargement procedures should be urgently developed, in addition to public education via means, such as public information campaigns about penis enlargement procedures and what constitutes a healthy sex life.

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CONFLICT OF INTEREST

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

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