

## PENILE PARAFFINOMA – DISCUSSIONS ON A CLINICAL CASE

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### Summary

*Paraffinoma of the penis, also known as sclerosing lipogranuloma of the penis, represents a foreign body reaction in response to the subcutaneous injection of liquid paraffin, silicon, professional-grade oil, mineral oil, kanamycin, and various others, with the aim of increasing penile girth. Liquid paraffin is the most commonly used substance. We present the case of a patient who presented with lesions suggestive of a diagnosis of penile paraffinoma, occurring after the injection of ointment containing kanamycin, with the goal of increasing penis size. The most important criterion for establishing a positive diagnosis is the personal history of self-injection. Histopathological examination, along with clinical and paraclinical findings, serve as complementary examinations, useful for the diagnosis of certainty. Lesions can appear from weeks to several years after injection, with the most common complications being erectile dysfunction, inguinal adenopathies, superinfections, local migration of the injected substance, invasion of the corpora cavernosa, acute urinary retention, urinary disturbances, phimosis, paraphimosis, epidermoid carcinoma. Treatment options include conservative or surgical approaches, close monitoring of the patients being essential due to the risk of recurrence.*

**Key words:** *paraffinoma, foreign body reaction, self-injection, deformed penis, penile complications.*

Received: 15.01.2024

Accepted: 23.02.2024

### Introduction

Paraffinoma of the penis, also known as sclerosing lipogranuloma of the penis, represents a foreign body reaction in response to the subcutaneous injection of liquid paraffin, silicon, professional-grade oil, mineral oil, kanamycin and various others, with the aim of increasing penile girth [1]. It is a relatively uncommon condition, more frequently observed in populations from Asia, Russia, Korea, and Eastern Europe [2,3].

### Case Report

We present the case of a 34-year-old male with no known personal pathological history, who sought medical attention for the onset of lesions suggestive of penile paraffinoma. According to the patient's history, approximately 10 months prior, he self-injected an ointment containing kanamycin with the goal of increasing penile girth.

Local dermatological examination revealed a deformed penis with edema, phimosis, display-

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ing multiple ulcerations, fistulas, firm nodules of varying sizes scattered across its surface. The onset of these lesions was accompanied by pain and erectile dysfunction, however, there were no inguinal lymphadenopathies and no modification of the laboratory examinations, with negative results of a complete sexually transmitted infection panel.

Histopathological examination, utilizing hematoxylin-eosin staining, identified lymphocytic infiltrates containing foreign body giant cells, replacement of subcutaneous tissue with numerous vacuoles of varying sizes surrounded by fibrous tissue, as well as marked thickening of the reticular dermis.

Based on the patient's history (self-injection), clinical and histopathological examinations, the diagnosis of penile paraffinoma was established and the patient was referred to the plastic surgery clinic for specialized treatment.

## Discussions

Paraffinomas represent foreign body granulomatous reactions that arise from the subcutaneous injection of various substances, with paraffin being the most commonly used substance for the purpose of increasing penile girth [1,4].

In 1899, Austrian surgeon Robert Gersuny was the first to document the use of substance injections for cosmetic purposes in the genital organs, however, a rapid reduction in the use of this method was reported shortly after due to the emergence of late complications (lipogranuloma formation) [1]. Complications occur because the human body lacks the necessary enzymes to break down the exogenous substances [5].

A thorough patient history (history of self-injection) is crucial, as clinical aspects may vary depending on the composition and quantity of the injected material, depth, site of injection and time interval since injection [2]. Lesions can appear from a few weeks to several years after injection, with 50% of cases presenting within the first year [6]. In most cases, patients present both pain and swelling of the penis, during physical examination additional changes that can be observed include scars, penile deformities, abscess and ulceration formation, as well as the

presence of induration, erythema, purulent discharge, necrosis and fistulas. Furthermore, these individuals may experience complications such as erectile dysfunction, inguinal adenopathies, superinfections, local migration of the injected substance, invasion of the corpora cavernosa, acute urinary retention, urinary disturbances, phimosis, paraphimosis, epidermoid carcinoma [6,7,8].

The positive diagnosis primarily relies on the history of self-injection but also on clinical and histopathological examinations [9]. Histopathological examination, along with normal values in routine laboratory tests (except for possible eosinophilia), penile magnetic resonance imaging (the most useful method for determining the extension into adjacent soft tissues), penile ultrasound, a complete panel for sexually transmitted infections, serve as complementary examinations useful for establishing a definitive diagnosis [6,10].

Although it is a relatively rare pathology, we consider it important for dermatologists and urologists to recognize it, with the differential diagnosis being a crucial step in establishing a positive diagnosis [9]. The most important differential diagnoses to consider include: penile abscess - associated with painful erections, the presence of a fluctuant, inflammatory and painful mass; squamous cell carcinoma - in the presence of ulcerated lesions with serpiginous, firm margins; thrombosis of the dorsal vein of the penis - ruled out by performing an ultrasound; genital granulomatosis - granulomatous lymphangitis with lymphedema of the penis, granulomas without caseous necrosis (microscopically); patient-induced lesions (neurotic excoriations, compulsive disorders); artificial penile nodules - a history of introducing objects under the penile skin; self-injection of drugs such as cocaine, subcutaneously or intradermally into the penis - which can lead to priapism, septic abscess, Fournier gangrene, necrosis [6,11,12,13]. Penile ultrasound is one of the most useful complementary examinations as it is a relatively accessible method with low costs compared to other imaging devices and can determine the involvement of adjacent anatomical structures, as well as the presence of regional lymphadenopathy, abscesses or fistulas. Additionally, this



Figure 1 – Clinical appearance of the lesions at the moment of examination: deformed penis with edema, phimosis, displaying multiple ulcerations, fistulas, firm nodules of varying sizes scattered across its surface.

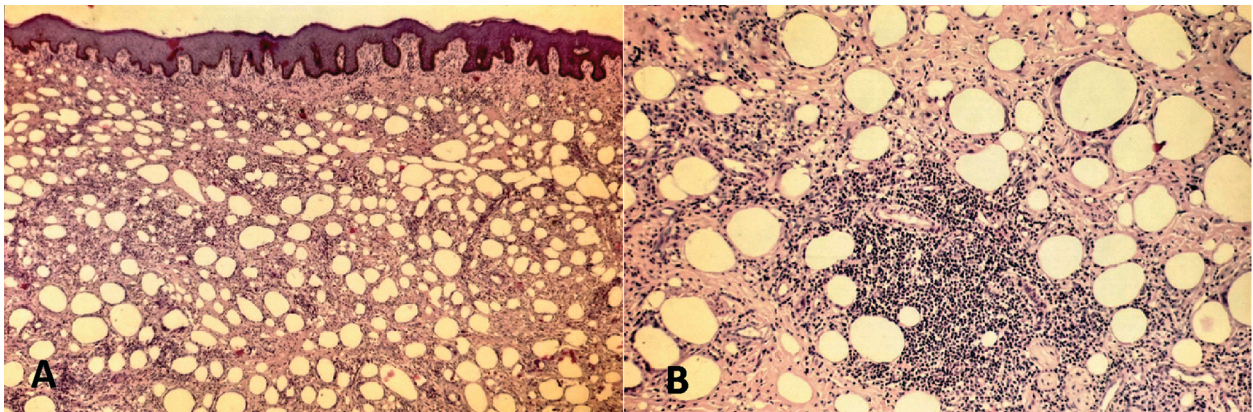


Figure 2 – Histopathological aspect in Hematoxylin-Eosin stain, 5x magnification-A, 10x magnification-B, lymphocytic infiltrates containing foreign body giant cells, replacement of subcutaneous tissue with numerous vacuoles of varying sizes surrounded by fibrous tissue, as well as marked thickening of the reticular dermis.

method can identify the type of injected material [11]. However, the personal history of self-injection remains the most useful way to establish a positive diagnosis of penile paraffinoma [9].

Histopathological examination also serves as a useful complementary examination, especially in cases where the patient does not report a history of self-injection, and there is a need to exclude other causes that can lead to penile induration [6]. When hematoxylin-eosin staining is used, multiple vacuoles of different sizes replacing normal subcutaneous tissue are observed, resembling the appearance of Swiss cheese. Additionally, there is thickening of the reticular dermis and the presence of multiple lymphocytic infiltrates, including foreign body giant cells. The clinically observed induration does not solely result from extensive fibrosis, but also from the blockage of lymphatic drainage by regional adenopathies caused by the non-absorbable injected substance [8,14].

There are multiple treatment options, including conservative therapy involving the administration of antibiotics, nonsteroidal anti-inflammatory drugs, systemic corticosteroids (prednisolone 20 mg/day for 3 months), intralesional injection of triamcinolone or the performance of a directed scar in case of necrosis or cutaneous ulceration and surgical treatment - complete surgical excision of the nodules represents the definitive approach to prevent recurrences and is recommended in case of failure of conservative treatment. The scrotal flap, split thickness skin graft (STSG) and the Cecil

insertion surgical technique are the most common options for covering the skin defect. The use of a STSG on a denuded penis, due to its integration, is considered the surgical intervention with the best results, achieving a complete erection during sexual activity. Postectomy is recommended in the case of paraffinoma localization on the prepuce [6,15]. Due to the increased risk of recurrence in case of the persistence of the injected substance at the injection site, close monitoring of patients is considered important [6].

Additionally, psychological counseling should be recommended for patients, especially for those with body dysmorphic disorder, considering that they often have a distorted perception of their own penis, even though it is fully functional and of normal size [16].

## Conclusions

Penile paraffinomas represent a relatively rare pathology, arising from subcutaneous injection of various substances with the aim of increasing the penile girth. The most crucial criterion for establishing a positive diagnosis is the personal history of self-injection. We consider it important to closely monitor patients, given that the injection is performed by non-medical personnel. This practice may be followed by complications and an increased risk of recurrence, often requiring surgical or conservative treatment.

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Conflict of interest  
NONE DECLARED

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