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CASO CLÍNICO

Lipomembranous Panniculitis Induced by Repeated Progesterone Injections for Libido Enhancement: A Case Report

Paniculite Lipomembranosa Induzida por Injeções Repetidas de Progesterona para Aumento da Líbido: Um Relato de Caso

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ABSTRACT

The use of subcutaneous and intramuscular progesterone injections for non-therapeutic purposes has become increasingly common in Africa, particularly in Angola, where weak regulation allows unsupervised use. We report the case of a 26-year-old Angolan woman who developed lipomembranous panniculitis after six months of daily subcutaneous progesterone injections for libido enhancement at a non-medical center. She presented with erythematous-brown nodules and plaques, and a skin biopsy confirmed granulomatous inflammation and adipocyte death. Treatment with prednisolone and naproxen resolved the inflammation, but hyperpigmentation persisted. This case highlights the serious risks of off-label progesterone injections, particularly in unregulated aesthetic procedures, and underscores the need for stricter regulations and public health interventions.
Keywords: Injections, Intramuscular; Injections, Subcutaneous; Libido/drug effects; Panniculitis/chemically induced; Progesterone/adverse effects

RESUMO

A utilização de injeções subcutâneas e intramusculares de progesterona para fins não-terapêuticos tem-se tornado cada vez mais comum em África, especialmente em Angola, onde a fraca regulamentação permite o seu uso não supervisionado. Relatamos o caso de uma mulher angolana de 26 anos que desenvolveu uma paniculite lipomembranosa após seis meses de injeções diárias de progesterona subcutânea para aumento da líbido, num centro não-médico. Apresentava nódulos e placas eritematosas acastanhadas, e a biópsia cutânea confirmou inflamação granulomatosa com necrose de adipócitos. O tratamento com prednisolona e naproxeno levou à resolução da inflamação, embora tenha persistido hiperpigmentação pós-inflamatória. Este caso destaca os riscos graves associados à injeção *off-label* de progesterona, particularmente em procedimentos estéticos não regulamentados, reforçando a necessidade urgente de regulamentação mais rigorosa e intervenções em saúde pública.
Palavras-chave: Injeções Intramusculares; Injeções Subcutâneas; Libido/efeitos dos medicamentos; Paniculite/induzida quimicamente; Progesterona/efeitos adversos

INTRODUCTION

In recent years, subcutaneous and intramuscular progesterone injections have gained popularity across Africa for non-therapeutic purposes, particularly for gluteal augmentation, as reported in local media and social networks.[1] In Angola, the combination of limited regulation and easy access to this substance – approved for luteal phase support in assisted reproduction technology (ART) for women unable to tolerate vaginal formulations[2] – has fueled its widespread and unsupervised use in non-medical contexts.

These practices have led to local complications, prompting some women to seek medical treatment abroad, including in Portugal.

Injectable progesterone exists in three main formulations: (1) intramuscular or subcutaneous injection of medroxyprogesterone acetate, widely used for hormonal contraception[3]; (2) intramuscular norethisterone enanthate, a synthetic progestin approved by the European Medicines Agency and included in the World Health Organization's essential medicines list as a long-acting contraceptive[4]; and (3) intramuscular or subcutaneous natural progesterone, used in ART to support the luteal phase.[5] The latter, not commercially available in Portugal, was apparently misused in the present case for a non-approved indication, reportedly for libido enhancement.

Lipomembranous panniculitis is a rare histopathological variant of panniculitis, characterized by membranous degeneration of adipocytes. It is thought to reflect a non-specific response to chronic ischemia, trauma, or repeated injection of irritating substances.[6]

This case report aims to raise awareness of this rare but serious complication, following repeated off-label subcutaneous progesterone injections for libido enhancement. To our knowledge, this is the first documented case of such an association. The report emphasizes the need for healthcare professionals to be alert to possible adverse effects of

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unregulated hormonal interventions performed abroad, underscoring the need to reinforce public health education and regulatory control regarding the misuse of injectable hormones.

CASE DESCRIPTION

A 26-year-old otherwise healthy Angolan woman presented to a dermatology emergency department in Portugal after developing progressive inflammatory skin lesions.

The patient reported a regimen of daily subcutaneous injections of 200 ampoules, each containing 1 mL of solution with 25 mg of progesterone, over six months. These injections were administered into the gluteal region and thighs at a non-medical aesthetic clinic in Luanda, Angola. Four months after starting this regimen, she developed progressively worsening erythematous-brown, warm, and tender nodules and plaques on the gluteal region, thighs, and legs (Fig. 1). She denied experiencing fever or other systemic symptoms. Laboratory findings were largely unremarkable, aside from a mild elevation in erythrocyte sedimentation rate and C-reactive protein. Microbiological studies, including bacterial, fungal, and mycobacterial skin cultures were negative. A skin biopsy from the thigh was performed, revealing granulomatous inflammation, collagen necrobiosis, adipocyte necrosis, and lipomembranous changes (Fig. 2). Periodic acid–Schiff and Ziehl-Neelsen staining confirmed the absence of microorganisms.

Based on these clinical and histopathological findings, a diagnosis of lipomembranous panniculitis secondary to repeated progesterone injections was established. Treatment included oral prednisolone (0.3 mg/kg/day for one week) tapered over two weeks, and naproxen (500 mg twice daily for three weeks). This treatment led to the complete resolution of inflammatory signs and symptoms in four weeks, although post-inflammatory hyperpigmentation persisted.

DISCUSSION

Injectable progesterone is generally well tolerated, with commonly reported cutaneous adverse effects including localized pain, induration, and mild inflammatory reactions at the injection site.[7] However, severe complications such as panniculitis and adipocyte death have also been reported.[8] Although the patient in this case underwent the regimen aiming at libido enhancement, most studies describe progesterone as having a libido-suppressing effect,[9] further highlighting the lack of medical justification for this practice.

In this case, the clinical presentation of progressive, warm, and tender subcutaneous nodules and plaques, combined with the absence of systemic symptoms, suggested an inflammatory rather than infectious panniculitis. This diagnosis was further supported by the histopathological findings, which revealed lobular panniculitis with necrobiosis lipoidica (collagen degeneration), adipocyte necrosis, granulomatous inflammation, and lipomembranous changes – a constellation of features that align with previous reports of lipomembranous panniculitis.[10] Notably, microbiological cultures and special stains were all negative, reinforcing a non-infectious inflammatory etiology.

Lipomembranous panniculitis is a rare inflammatory condition of the subcutaneous fat, characterized histologically by necrosis and lipomembranous changes. It is often associated with venous insufficiency, but also arterial ischemia, erythema nodosum, and other systemic diseases.[11] In our case, the absence of such underlying conditions suggests an iatrogenic cause. The mechanism by which progesterone induces lipomembranous panniculitis is thought to involve several factors: its direct chemical injury, which exhibits lipolytic activity in vitro; vasoconstrictive properties, potentially leading to local tissue ischemia; an inflammatory response triggered by the precipitation of the injected substance; and mechanical trauma from repeated, high-volume injections.[12,13] Given the patient's history of 200 subcutaneous injections per day over several months, it is likely that both chemical insult and mechanical trauma acted synergistically to trigger the development of lipomembranous panniculitis.

There is no universally accepted standard treatment for this condition. Management is typically empirical and guided by the underlying cause. Some reports suggest using nonsteroidal anti-inflammatory drugs, oral and topical corticosteroids, or supportive care, especially in inflammatory or idiopathic cases.[7,11,13] In this case, the patient responded well to a short course of oral prednisolone and naproxen, with complete resolution of inflammatory signs within one month. The regimen used aligns with reported treatments in the literature for panniculitis of inflammatory origin, although evidence is limited to case reports.

Although this is the first documented case of lipomembranous panniculitis associated with repeated off-label subcutaneous progesterone injections for libido enhancement, anecdotal and media reports in Angola suggest a rising number of women undergoing similar procedures in non-medical contexts. However, there is a lack of scientific literature or epidemiological data supporting this as an established trend.

This underscores the need for qualitative studies exploring the sociocultural drivers behind these practices and

quantitative research to assess their prevalence and clinical impact. The main limitation of this report lies in its nature as a single case.

CONCLUSION

This growing trend raises critical concerns about patient safety, insufficient regulatory oversight, and the long-term consequences of these practices. It also highlights the urgent need for public health intervention and stricter regulation. Clinicians should maintain a high index of suspicion for factitious panniculitis in areas of the world where unregulated off-label procedures are prevalent, and efforts should be made to raise awareness of the risks associated with these dangerous practices.

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AUTHOR CONTRIBUTIONS

All authors contributed equally to this manuscript and approved the final version to be published.

PROTECTION OF HUMANS AND ANIMALS

The authors declare that the procedures were followed according to the regulations established by the Clinical Research and Ethics Committee and to the Helsinki Declaration of the World Medical Association updated in October 2024.

DATA CONFIDENTIALITY

The authors declare having followed the protocols in use at their working center regarding patients' data publication.

PATIENT CONSENT

Obtained.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

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Figure 1 – Lipomembranous panniculitis caused by repeated subcutaneous progesterone injections. Clinical picture: erythematous-brown nodules and plaques on the buttocks and thighs.

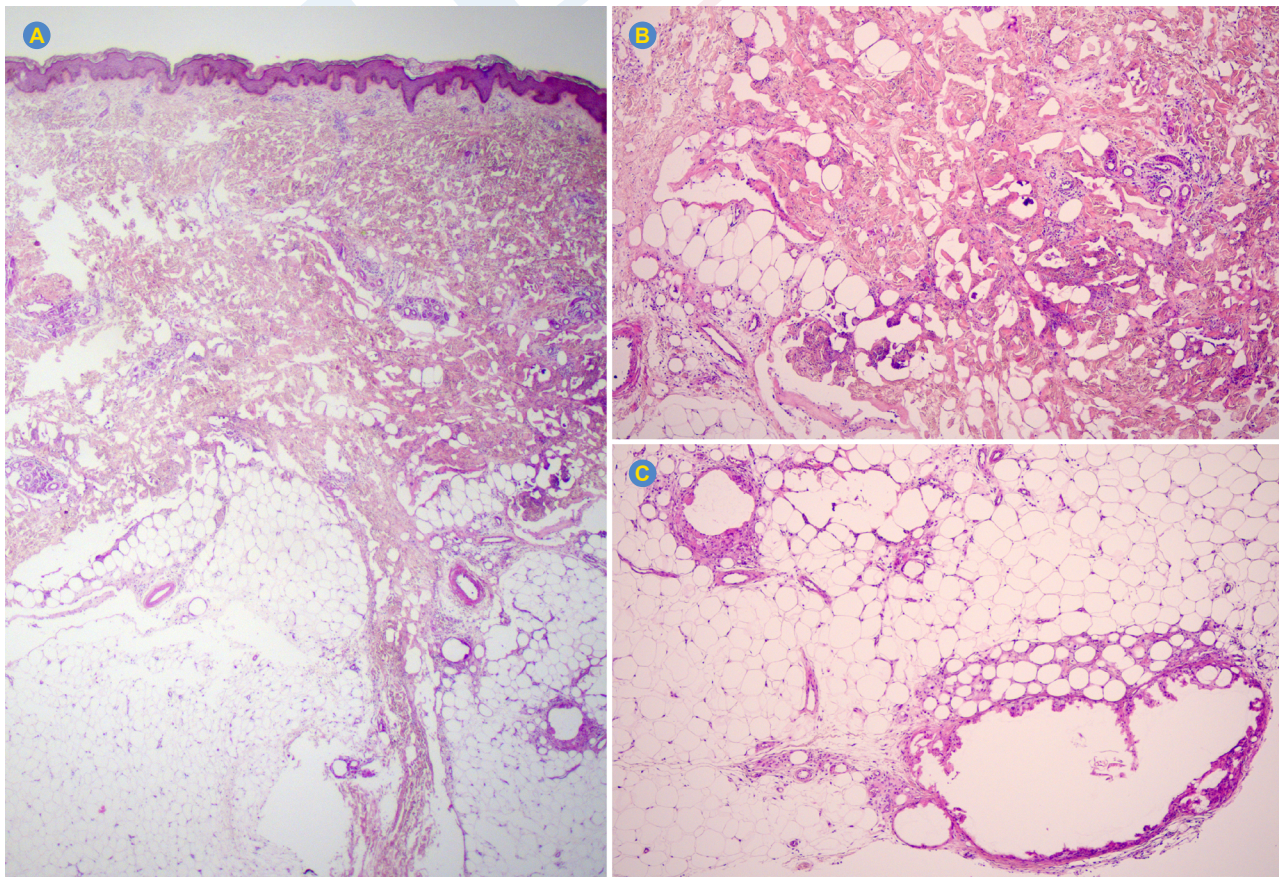

Figure 2 – Lipomembranous panniculitis caused by repeated subcutaneous progesterone injections. Histological examination: granulomatous inflammatory infiltrate is observed, with sclerosis and collagen necrobiosis, fat necrosis, and lipomembranous changes. (A) Hematoxylin and eosin, x16; (B and C) Hematoxylin and eosin, x40.