

## Case Report

### Zoon's plasma cell balanitis: a case report

#### *Balanite plasmocitária de Zoon: relato de caso*

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**RESUMO:** A balanite plasmocitária de Zoon (BPZ) é uma inflamação crônica do genital masculino, frequente em homens não circuncidados na terceira idade, manifestando-se como placa eritematosa na glândula ou no prepúcio. Apesar da circuncisão ser um tratamento de alta eficácia e definitivo, essa alternativa é rejeitada por grande parte dos pacientes devido a fatores culturais ou pessoais. Neste relato de caso, descrevemos o caso de um homem de 65 anos com sintomas persistentes há 8 meses, que após o diagnóstico para BPZ, obteve resultado favorável com tratamento utilizando corticoide tópico associado a antibiótico oral e tópico, destacando uma abordagem terapêutica conservadora eficaz.

**PALAVRAS-CHAVE:** Balanite Plasmocitária de Zoon; Tratamento Tópico; Circuncisão.

**ABSTRACT:** Zoon's plasma cell balanitis is a chronic inflammation of the male genital, common in uncircumcised men in old age, manifesting as an erythematous plaque on the glans or foreskin. Although circumcision is a highly effective and definitive treatment, this alternative is rejected by most patients due to cultural or personal factors. In this case report, we describe a 65-year-old man patient with persistent symptoms for 8 months. After being diagnosed with Zoon's plasma cell balanitis, he obtained a favorable result with treatment using topical corticosteroids associated with oral and topical antibiotics, highlighting an effective conservative therapeutic approach.

**KEY WORDS:** Zoon Plasmocyte Balanitis; Topical Treatment; Circumcision.

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## INTRODUCTION

Plasmacytic balanitis of Zoon (PBZ) is a chronic inflammatory condition of the genital tract, typically occurring in the third decade of life in uncircumcised men. The etiology of the condition remains undetermined, although several unproven predisposing factors have been suggested, including friction, trauma, heat, poor hygiene, smoking, chronic infection by *Mycobacterium smegmatis*, reaction to an unidentified exogenous infectious agent, hypospadias, and an IgE-mediated immune response<sup>1-3</sup>.

Clinically, it manifests as a solitary erythematous plaque affecting the glans and prepuce. Circumcision is regarded as the definitive treatment. However, due to its frequent rejection by the majority of patients, alternative therapeutic approaches, primarily topical treatments, particularly corticosteroids, are commonly applied<sup>1-7</sup>.

We report a case of PBZ with a favorable response to topical corticosteroids combined with oral and topical antibiotics.

### Patient information and case description

This case report was conducted in accordance with ethical standards, with written informed consent obtained from the patient, and was approved by the Research Ethics Committee (CAAE: 79316824.6.0000.5515).

The patient is a white male 65-year-old with no prior comorbidities who sought medical care due to erythema and discharge on the glans that had persisted for 8 months, without

improvement despite numerous topical and oral treatments. During the consultation, dermatological examination revealed an erythematous plaque with serous discharge on the glans and prepuce, as well as purulent discharge from the urethral meatus (Figure 1). Contact balanoposthitis was suspected, and treatment with clobetasol propionate cream and oral prednisone 40 mg/day for 7 days was prescribed, along with laboratory tests.

The patient returned after 12 days, maintaining clinical signs of erythema and purulent discharge, oral cefadroxil and potassium permanganate soaks were prescribed, previously requested laboratory investigations presented the erythrocyte sedimentation rate elevated at 38 mm/h, HLA-B27 screening was positive, while tests for antinuclear antibodies and rheumatoid factor were negative. Furthermore, histopathological examination of a skin biopsy revealed an area of ulceration associated with prominent granulation tissue and the adjacent dermis exhibited a dense lymphomononuclear inflammatory infiltrate, interspersed with polymorphonuclear leukocytes, plasma cells, and occasional melanophages. No granulomatous structures or histological features suggestive of malignancy were identified. Special stains for fungi and spirochetes, including PAS, Grocott, and Warthin-Starry, yielded negative results (Figure 2).

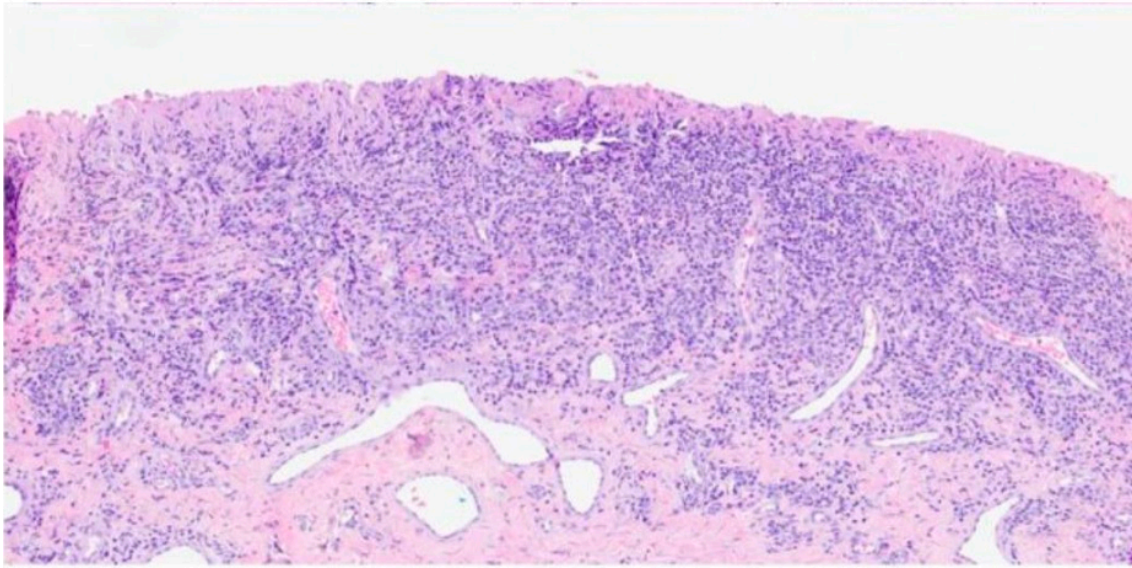
Following the histopathological findings, the patient was initiated on a regimen of oral sulfamethoxazole (800 mg) combined with trimethoprim (160 mg) every 12 hours, in association with a topical betamethasone dipropionate and gentamicin, demonstrating excellent improvement after three weeks of treatment (Figure 3).

FIGURE 1 - Erythematous exulcerated plaque with purulent discharge on the glans region



Fonte: Original photograph

**FIGURE 2** - Histological sections show squamous mucosa with epidermal erosion and a band-like inflammatory infiltrate in the chorion, rich in plasma cells. Vascular dilation is also observed (H&E, 100x)



Fonte: Original photograph

**FIGURE 3** - Slightly erythematous plaque with a small exulcerated area on the glans, showing improvement after treatment



Fonte: Original photograph

## DISCUSSION

The BZP is a chronic benign inflammatory dermatosis

predominantly affecting elderly, uncircumcised males. It is frequently asymptomatic, with patients exhibiting only localized alterations in the genital region; however, it may occasionally

present with pruritus, dysuria, pain, or a localized burning sensation. Clinically, the condition is characterized by a solitary, well-demarcated, moist, shiny, orange-red erythematous plaque, typically located on the glans penis or prepuce<sup>1,2</sup>.

Clinical differentiation may at times be challenging. Therefore, histopathological examination is essential. Histologically, in the early stages of the disease, there is slight epidermal thickening with parakeratosis and a band-like lymphocytic infiltrate accompanied by occasional plasma cells in the superficial dermis. As the condition progresses, epidermal atrophy, superficial erosions, and a denser plasmacytic infiltrate become evident<sup>1,4,5,7</sup>.

The principal differential diagnosis is erythroplasia of Queyrat (squamous cell carcinoma in situ), a premalignant condition that shares similar clinical features but presents distinct histopathological characteristics. Other important differential

diagnoses include candidiasis, lichen planus, secondary syphilis, and Bowen's disease, all of which can clinically mimic Zoon's balanitis. In addition, allergic contact dermatitis, genital herpes simplex, pemphigus vulgaris, and Reiter's disease should also be considered in the differential diagnosis<sup>1-7</sup>.

About therapy, circumcision is considered the most effective treatment, demonstrating a remission rate of 46%, which is significantly higher than the 16% observed with the exclusive use of topical treatments<sup>7</sup>. However, due to the low acceptance of this procedure among patients, this report highlights a successful case treated with a corticosteroid-based cream combined with oral and topical antibiotics. Among topical options, there is evidence that tacrolimus and corticosteroids are the most effective<sup>6-7</sup>. Other therapeutic modalities have been shown to be effective and well tolerated, such as fractional CO<sub>2</sub> laser and non-fractional erbium-YAG laser ablation<sup>5-7</sup>.

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