MATHEWS

Case Report

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Primary Syphilis Masquerading as a Tumour-like Foreskin Mass

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ABSTRACT

We present a rare case of syphilis in a 59-year-old male with phimosis and a mass lesion on the foreskin, initially resembling a tumour. The patient had a 2-month history of penile redness, pain and ulceration, with examination revealing a 1 cm indurated lesion. Post-circumcision, a 20 mm solid, tan-coloured nodule was identified. Microscopic evaluation showed an inflammatory mass of plasma cells with perivascular distribution. Immunohistochemistry confirmed syphilis by detecting Treponema pallidum. This case highlights the importance of including syphilis in differential diagnoses and the value of immunohistochemical testing in atypical cases.

Keywords: Syphilis, Atypical Presentation, Foreskin Mass, Phimosis, Plasma Cell Infiltrate, Immunohistochemistry.

INTRODUCTION

Syphilis, a sexually transmitted infection caused by Treponema pallidum, has a broad spectrum of clinical presentations, ranging from subtle mucocutaneous lesions to more severe manifestations affecting various organ systems. Primary syphilis typically presents as a painless ulcer or chancre at the site of inoculation, most commonly the genitalia. However, atypical presentations can pose a diagnostic challenge, particularly when the lesion mimics other more common or aggressive pathologies such as malignancies. With increasing incidence rates in many parts of the world, including Europe [1], recognizing these unusual manifestations is becoming ever more crucial in clinical practice.

We present an unusual case of syphilis in a 59-year-old male who presented with phimosis and a mass lesion in the foreskin. Our patient presented to the hospital with a 2-month history of redness, pain and ulceration affecting his glans penis. He denied any systemic symptoms. Clinical review revealed maceration and a 1cm red indurated lesion at the tip of his foreskin. Past medical history was significant for obesity, myocardial infarction and obstructive sleep apnoea. The patient underwent circumcision.

METHODOLOGY

Standard haematoxylin and eosin (H&E) sections were used to initially analyse the tissue. Immunohistochemistry with treponema pallidum

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antibody was used to confirm the presence of the spirochete organisms.

RESULTS

Macroscopic examination of the foreskin revealed a 20mm solid tan-coloured nodule that resembled a tumour. Microscopic examination revealed surface ulceration and an expansile inflammatory mass located within the dermis (Figure 1A & 1B). This was predominantly composed of plasma cells showing a perivascular distribution with extension into the deep dermis (Figure 2A & 2B). Endothelial cell swelling and a proliferation of blood vessels was also seen.

Immunohistochemistry with treponema pallidum antibody revealed abundant spirochete organisms within the epidermis and dermal inflammatory infiltrate (Figures 2C & 2D), confirming a diagnosis of syphilis. No light chain restriction was seen within the plasma cells.

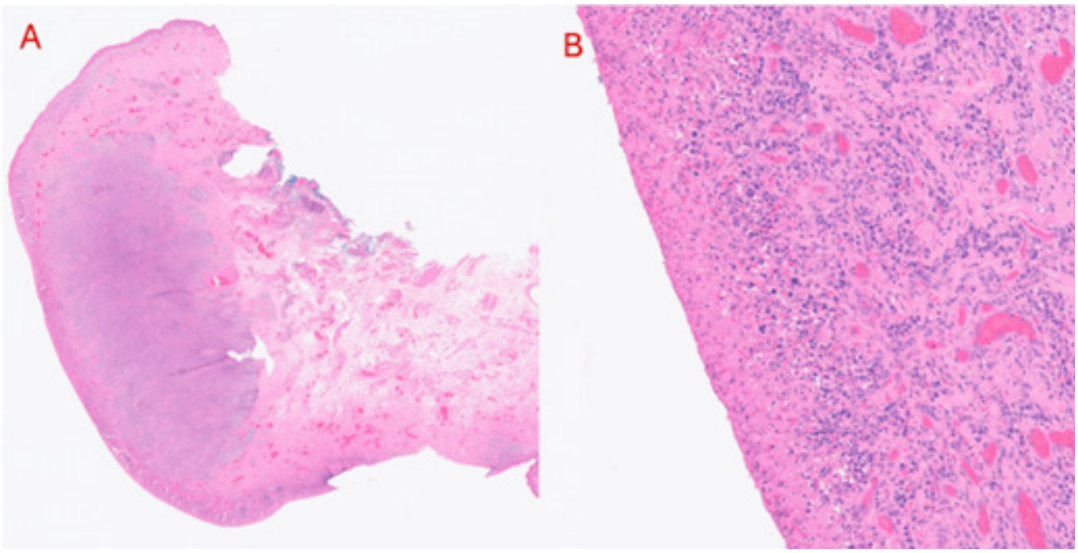

Figure 1. (A) x5 H&E. An expansile mass within the dermis showing deep perivascular extension. (B) x140 H&E. Higher magnification reveals epidermal ulceration covered in necrotic fibrinous ulcer slough.

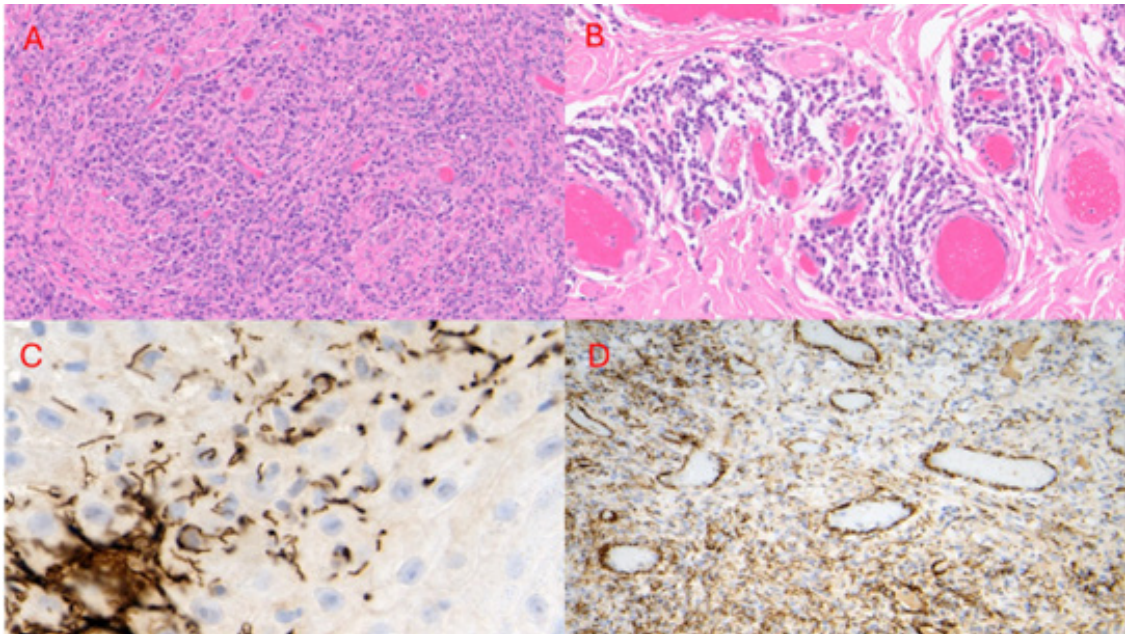

Figure 2. (A) x270 H&E. The expansile mass is predominantly composed of plasma cells. (B) x270 H&E. Deep perivascular distribution of plasma cells beyond the confines of the inflammatory mass. (C) x400. Treponema pallidum immunohistochemistry reveals abundant spirochete organisms within the epidermis and (D) dermal inflammatory infiltrate.

DISCUSSION

This case represents an unusual presentation of primary syphilis. Condyloma lata (secondary syphilis) and condylomata acuminata (genital warts) are differential diagnoses but differ from primary syphilis based on their aetiology, clinical appearances and histopathological findings (Table 1). We favour primary syphilis rather than secondary syphilis since this is a single lesion with epidermal ulceration in a systemically well patient and there was no reactive overlying acanthosis.

Table 1. Comparison of Primary Syphilis, Condyloma Lata, and Condylomata Acuminata

Feature	Primary Syphilis (Chancre)	Condyloma Lata (Secondary Syphilis)	Condylomata Acuminata (Genital Warts)
Aetiology Clinical Appearance	Treponema pallidum (initial infection)	Treponema pallidum (systemic spread)	Human Papillomavirus (HPV), usually types 6 and 11
Lesion	Single, firm, typically painless ulcer or chancre. Red or ulcerated with indurated edges.	Multiple, broad-based, flat, moist, and wart-like papules or plaques. White, grey, or flesh-coloured; may appear smooth or velvety.	Multiple, soft, exophytic (cauliflower-like) papules. Flesh-coloured or hyperpigmented
Location	Genital, anal, or oral (depending on contact site)	Intertriginous areas (e.g., genital, anal, perineal, axillary regions)	Genital, perianal, and mucosal surfaces
Histopathological Findings	Ulceration, absence of epidermal hyperplasia.	Hyperplasia, parakeratosis, and acanthosis.	Acanthosis, parakeratosis, papillomatosis, koilocytosis, Minimal inflammatory infiltrate.
	Dense plasma cell infiltrate, endothelial swelling, and perivascular inflammation.	Dense perivascular inflammatory infiltrate, mainly plasma cells.	No significant vascular involvement.
	Endarteritis with endothelial proliferation.	Endarteritis may also be present.	
	Abundant plasma cells and spirochetes; positive for T. pallidum on special stains.	Spirochetes detectable with silver stain or immunohistochemistry.	
Systemic Symptoms	None	Generalised symptoms such as fever, malaise, rash, mucous patches	None

CONCLUSION

This case illustrates an atypical presentation of syphilis, appearing macroscopically as a tumour-like mass. However, the abundant plasma cells, their perivascular distribution and their deep dermal extension were clues for syphilis. Given the increasing prevalence of the infection in Europe [1], the presented case highlights the importance of a high index of suspicion and a low threshold for immunohistochemistry/ancillary testing to ensure the correct diagnosis of syphilis, even if this is not clinically suspected.

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None.

CONFLICT OF INTEREST STATEMENT

There is no conflict of interest to declare from any author.

STATEMENT OF FUNDING SOURCES

There are no funding sources to declare.

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