

Vulvar Nocardiosis in the Setting of dVIN: a High-Risk Infection

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Introduction

Nocardia is a gram positive, aerobic, partially acid-fast filamentous bacteria of the order Actinomycetales. It is a saprophytic organism found in environmental contaminants such as soil and decomposing organic matter [1]. Primary cutaneous nocardiosis is uncommon and may occur via contamination of a wound or via inhalation of the organism with dissemination to multiple organ systems, including the skin [2]. Vulvar Nocardiosis is an exceedingly rare manifestation of *Nocardia* infection.

The Case

Described is a patient with recurrent vulvar squamous cell carcinoma, lichen sclerosus, and differentiated vulvar intraepithelial neoplasia (dVIN) requiring multiple resections and biopsies who presented with recurrent firm, white, nodular lesions on the right labia and right inferior clitoris. Repeat biopsy and special staining was performed, leading to a diagnosis of vulvar nocardiosis.

Clinical Images



Figure 1 Clinical photograph showing white nodular lesions on the right inferior clitoris and right vulvar labia.

Clinical Course

Histopathology of the right inferior clitoral lesion demonstrated dVIN. The right labia majora lesion also revealed dVIN and dermal epithelioid granulomas with central vacuoles filled with filamentous to small fragmented forms suggestive of bacteria, positive on gram, GMS and FITE stained tissue sections (Figures 2, 3, 4 and 5). Ziehl-Neelsen AFB stain was negative (Figure 6), suggesting against atypical mycobacterial infection. The filamentous and beaded forms were most consistent with *Nocardia* and not leprosy (which is also FITE positive).

Histopathology

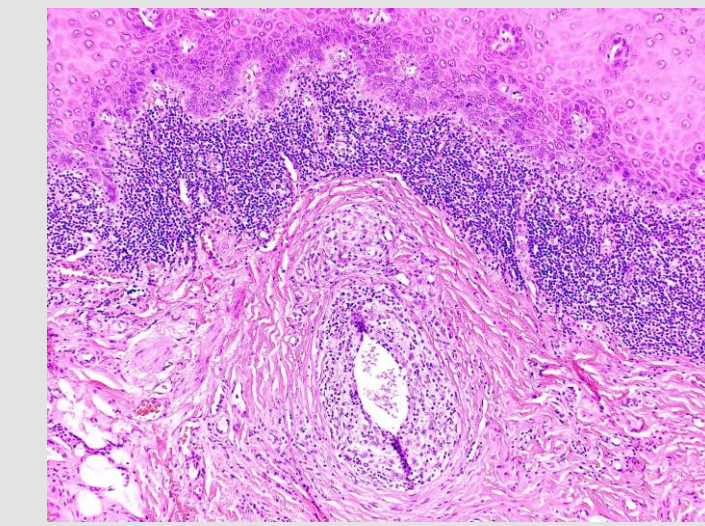


Figure 2 Right labial excision showing an epithelioid granuloma in the upper dermis with overlying squamous epithelium showing changes of differentiated vulvar intraepithelial neoplasia (H&E 10X).

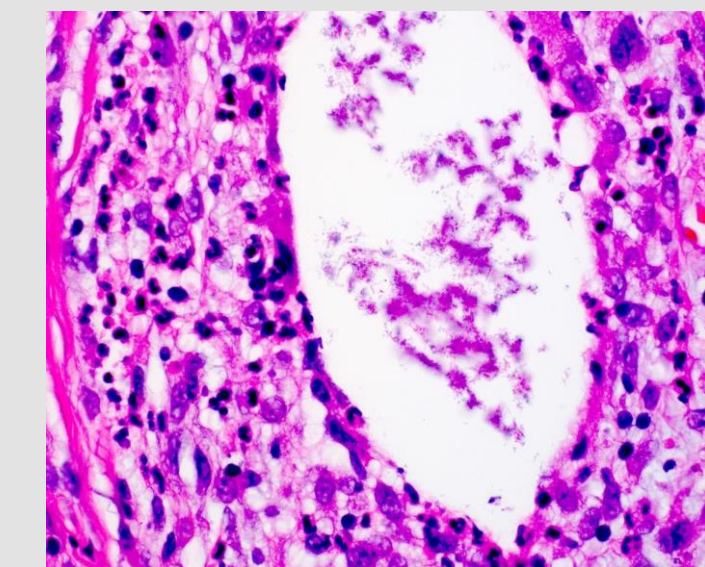


Figure 3 Closer view of upper dermal granuloma with central vacuole filled with filamentous and beaded forms suggestive of bacteria (H&E 60X).

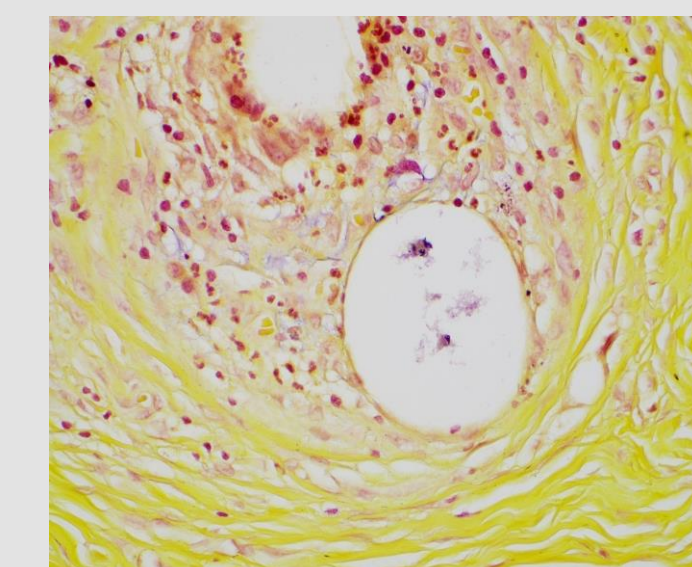


Figure 4 Gram stain marking gram positive forms (blue), in the top portion of the vacuole (40X).

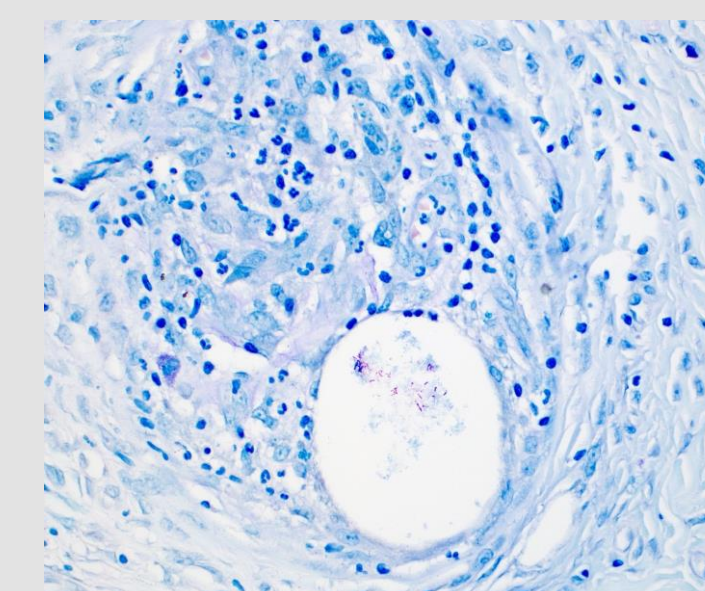


Figure 5 FITE stain marking the modified acid fast filamentous and fragmented to beaded forms (red) (40X).

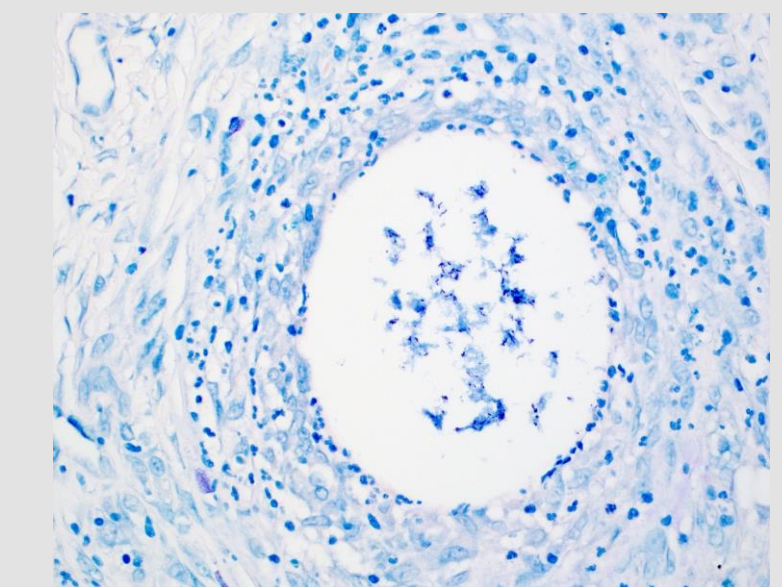


Figure 6 Ziehl-Neelsen AFB stain is negative in the filamentous and beaded forms (40X).

Conclusion

Vulvar nocardiosis in the setting of dVIN and history of multiple vulvar surgeries has not been described in the literature to date. This case demonstrates appropriate vigilance for unsuspecting infections as timely treatment will improve outcomes, particularly in the setting of multiple surgical procedures and high risk for infectious complications.

References

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