Enfermedades Infecciosas y Microbiología Clínica 42 2024 388–389

Enfermedades Infecciosas y Microbiología Clínica

www.elsevier.es/eimc

Diagnosis at first sight

Inguinal intertrigo: Infectious or inflammatory?

Intertrigo inguinal: ¿infeccioso o inflamatorio?

María Noemí da Ponte*, Rosalba Riveros, Belén Goiburu, Arnaldo Aldama

Cátedra de Dermatología, Hospital de Clínicas, San Lorenzo, Paraguay

Case report

We present the case of a 59-year-old woman, in active employment, from San Lorenzo (Paraguay), with no underlying disease. She presented with a two-year history of itching bilaterally in the inguinal region, treated on several occasions with topical and systemic antifungals and other topical medications that she was unable to name, without improvement.

Physical examination revealed 10×3 cm and 9×2 cm hyperpigmented plaques, lichenoid in appearance, with clear limits and irregular borders bilaterally in the inguinal region. Tests were performed at the first consultation using Wood's lamp illumination, which showed patchy reddish discolouration (Fig. 1).

Clinical course and treatment

In addition to the above test, samples were also sent to the microbiology laboratory for direct examination and culture of bacteria and fungi and to the pathology laboratory, given the chronic nature of the lesions and the inconclusive reddish colour.

The microbiological diagnosis was performed from the smear and culture of the lesion. Direct examination and culture for fungi were negative.

In the culture on sheep blood agar, incubated at 37 °C for three days, there was growth of non-haemolytic colonies, beige in colour and creamy in appearance (Fig. 2A). In the Gram stain of the colonies, Gram-positive bacilli with the morphology of *Corynebacterium* spp were observed (Fig. 2B).

Species identification was carried out from colonies grown for 48 h by mass spectrometry (MALDI-TOF. VITEK® MS) following the manufacturer's recommendations. Antimicrobial susceptibility tests were not performed due to the patient's lack of financial resources.

From the pathology laboratory, histochemical staining with PAS revealed bacilli and filaments morphologically compatible with *Corynebacterium* spp., which supported the diagnosis previously made by culture (Fig. 3).

The patient received treatment with topical erythromycin at 2% for three weeks, with clinical improvement (Fig. 4).

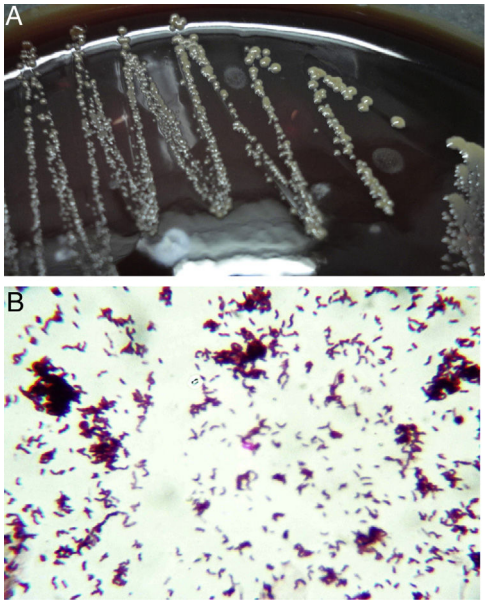

Figure 2. Gram stain of colonies on blood agar (A). Gram-positive bacilli with *Corynebacterium* spp. morphology. *Corynebacterium minutissimun* colonies on sheep blood agar (B).

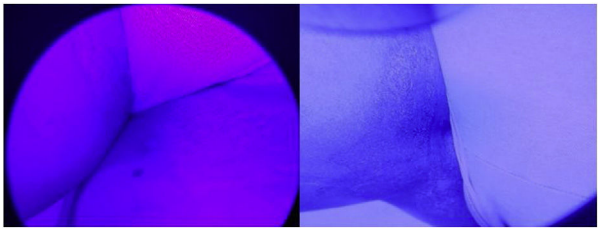

Figure 1. Illumination with Wood's lamp in the bilateral inguinal area. Patchy brownish plaques with reddish discolouration can be seen.

DOI of original article: https://doi.org/10.1016/j.eimc.2023.12.007

* Corresponding author.

E-mail addresses: dapontenoemi50@gmail.com, noemi_daponte@hotmail.com (M.N. da Ponte).

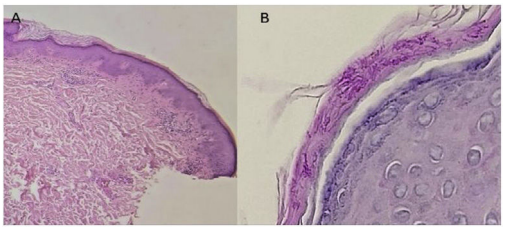

Figure 3. Pathology. Haematoxylin and eosin (A) and PAS (B) stains. PAS staining shows bacilli and filaments morphologically compatible with *Corynebacterium* spp.

Figure 4. Clinical improvement of inguinal intertrigo after treatment with erythromycin.

Erythrasma is caused by *Corynebacterium minutissimum*, a Gram-positive, catalase-positive, non-spore-forming microorganism. This bacteria causes serious diseases in immunocompromised patients, such as cutaneous fistulas, granulomatous lesions and subcutaneous abscesses. Host and environmental factors that increase the risk of erythrasma include living in a humid environment, excessive sweating, diabetes, poor hygiene, advanced age, coexisting skin disorders and obesity.[1] Under humid and occluded conditions, *C. minutissimum* grows in the upper levels of the stratum corneum and produces coral red fluorescence on Wood's lamp examination due to coproporphyrin III.[1] Erythrasma occurs mainly in skin-fold sites such as the axillae and inguinal areas. It can also be found in intertriginous areas of the feet and as coinfection with *Candida albicans* or dermatophytes.[1] There are other conditions that share the same anatomical sites, such as inflammatory disorders (seborrhoeic dermatitis and inverse psoriasis) and other infections such as candidiasis, tinea versicolor and dermatophytosis.[2]

Topical treatment includes fusidic acid, clindamycin or erythromycin. In the case presented, topical erythromycin was chosen for three weeks, with resolution of the condition. Oral treatment is indicated in patients with extensive affected areas of skin. Oral treatment options are 1 g clarithromycin in a single dose or 1 g erythromycin (in divided doses) for 14 days.[1]

We have to consider this disorder in patients, like ours, who have been treated with antifungals, have a long history of symptoms and have seen little clinical improvement or been resistant to treatment.

Funding

The preparation of this case report was self-funded.

Author contributions

MdP and RR conceived of and designed the study. MdP, BG, and AA contributed to data collection and interpretation. MdP wrote the manuscript. All authors contributed to the discussion, review, and approval of the final manuscript.

Conflicts of interest

The authors declare that they have no conflicts of interest.

Acknowledgements

We would particularly like to thank Dr José Pereira, Dr Juana Ortellado and Dr Graciela Lird for their collaboration with the clinical case.

References

1. Groves JB, Nassereddin A, Freeman AM. Erythrasma. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023. PMID: 30020724.
2. Forouzan P, Cohen PR. Erythrasma revisited: diagnosis, differential diagnoses, and comprehensive review of treatment. Cureus. 2020;12:e10733, http://dx.doi.org/10.7759/cureus.10733.