CUTANEOUS BOTRYOMYCOSIS.
REPORT OF THE TWO FIRST URUGUAYAN CASES

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SUMMARY
The first two Uruguayan cases of botryomycosis were diagnosed in white adult male patients with cutaneous lesions. *Staphylococcus aureus* was the etiologic agent in both cases. In one of them, however, *Pseudomonas aeruginosa* was also identified during relapse.
General comments on diagnosis and pathogenesis of the disease are made.

KEYWORDS: Botryomycosis; *Staphylococcus aureus*; Granules.

INTRODUCTION
Botryomycosis is a rare suppurative chronic and granulomatous disease characterized by presence of granules in tissues due to the infection by non filamentous bacteria.

Originally described by BOLLINGER in equines in 1870, RIVOLTA named it botryomycosis (from Greek: *Botryx*, grape bunch and *mycosis* for attributing it a fungal origin). In 1919, MAGROU established the bacterial origin of the disease.

This paper refers the first two Uruguayan cases stressing the importance of a correct diagnostic methodology for the recognition of the disease.

CLINICAL OBSERVATIONS
Case I. Patient F.S., male, white, 20 year old, from Montevideo city, with presumptive diagnosis of sporotrichotic residual abscess. At examination: nodular ovoid dermohypodermic lesion on the left supraepi- trochlear region of 1.5 cm long by 1 cm wide, a bit painful and fluctuating, without local heat or epidemic changes. No general symptoms. One year before, traumatic lesion on left fore-finger treated with antibiotics during 2 weeks and with local iodines and hot water bag for other 3 weeks.

After puncture scarce pus with small yellowish masses was obtained. The microscopic examination showed groups of round shaped granules with amorphous center and lobulated periphery, surrounded some of them by clubs. Their diameters ranged between 350 and 420 microns (Fig. 1). Smears of the granules stained by Gram’s method, revealed abundant Gram positive cocci. Cultures on blood agar developed abundant *Staphylococcus aureus* colonies. The pus was embedded in paraffin. Hematoxylin & Eosin (H & E) stain showed granules with irregular borders, amphophilic granular center and eosiophilic periphery. Around them, dense infiltrate containing pyocytes, fibrin and leukocytes. Gram’s stain showed numerous coccioid Gram + organisms inside the granules.

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An apparent cure was obtained after surgical drainage. However, ten months later, a relapse occurred; *S. aureus* and *Pseudomonas aeruginosa* were isolated. De-

**Case 2.** Patient O.G., male, white, 64 years old, from Montevideo city with 6 dermohypodermic nodules on upper and lower limbs as well as dorsum of 1 to 6 cm in diameter, at different evolutive stages. Some of them showed discharge of scarce pus through one or more sinuses (Fig. 2). The nodules appeared 45 days before.

Fresh examination of the nodules was not done, but a biopsy was performed. Whereas in the cultures developed *S. aureus*, the histological section stained by H & E showed a subacute inflammatory process with dense histiocytic masses, necrotic areas and exudate rich in myocytes and leukocytes. In this exudate granules with similar characteristics to those described in the first case were observed (Fig. 3). Gram’s stain for histological sections showed abundant Gram positive organisms inside the granules (Fig. 4).

**DISCUSSION**

The present paper refers the first two Uruguayan cases of botryomycosis. According to PHILIPPOP et al., only 95 cases of the disease had been communicated until 1992.

In our both patients granules containing abundant Gram + cocci inside them, were found. Cultures gave development to *S. aureus* but in the relapse of the first case, *P. aeruginosa* was also isolated.

Differential clinical diagnosis of botryomycosis is mainly with stated mycetomas. The importance of a careful fresh examination of pus setting a diagnosis of botryomycosis was pointed out by AYNAUD in 1928 and by MACKINNON et al.

Smears of granules stained by Gram’s method and Kinyoun’s if necessary are recommended. Paraffin sections of granules or cutaneous biopsies stained by H & E and Gram’s method usually confirm diagnosis.

Production of granules by *S. aureus* and other bacteria in botryomycosis is poorly understood. While MAGROU suggested a special host-parasite balance, other authors accept an interaction between light pathogenic bacterial strains and an increased host’s resistance. However, the diagnosis of botryomycosis in several AIDS patients, makes doubtful the concept of a concomitant increase in host’s resistance. Furthermore, TOTH & KAZAL refer a defect in the intracellular destruction of bacteria by the macrophagic-mononuclear system in a botryomycosis AIDS patient. It is nowadays accepted that in most botryomycosis patients it is diffic-
cult or impossible to demonstrate predisponent factors or defects in the immune response what certainly happened in our two patients.

In 1969, MACKINNON et al. obtained actinomycetoid granules in guinea-pigs inoculated intrathecally with low dose of \( P. \text{aeruginosa} \). They brought attention on the peculiar characteristics of an eosinophilic sheath with clubs around it. The deposit of eosinophilic substance on the periphery of botryomycotic, actinomycotic or fungal granules with a crown shape or like radiated structures according to the case, represents the well known phenomenon of Splendore-Hoeppli. A similar thing happens on isolated fungal cells (asteroid bodies in sporotrichosis f. ex.), parasites, and also on inorganic materials. It would correspond to the deposit of host's antibodies against antigens of very different origin. Both IgG and C3 were found in such a substance in botryomycosis granules.

Finally, regarding therapy, though the spontaneous regression has been described, treatment should associate in most cases surgical drainage with antibiotics therapy according to antibiogram.

RESUMO

Botromicose cutânea: relato dos dois primeiros casos no Uruguai

Apresentamos os dois primeiros doentes de Botromicose tegumentar no Uruguai.

Ambos doentes eram adultos do sexo masculino.

Um tinha lesão isolada abscedida. No outro as lesões eram múltiplas e algumas fistulizadas.

Em ambos doentes o agente etiológico isolado foi \( S. \text{aureus} \). No primeiro doente, além disso, foi isolado \( P. \text{aeruginosa} \) na recidiva.
Comentários gerais são feitos sobre o diagnóstico e patogenia da doença.

REFERENCES


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