

## Case Report

# Scrotal abscess caused by actinomycosis *turicensis*: about an observation and literature review

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## ABSTRACT

*Actinomyces turicensis*, Gram positive bacillus, immovable and anaerobic, is a saprophytic of the human natural cavities. The scrotal actinomycosis caused by *Actinomyces turicensis* is a rare location; it was described once in literature by a patient within gangrene infection. Reported here is a case of scrotal abscess and *Actinomyces turicensis*. The slow growth of the *Actinomyces turicensis* represents a diagnostic difficulty in which its utility is to extend the culture during five days. The identification based on biochemical character with the APICoryne is not always easy to succeed, in which the interest of the mass spectrometry and/or of the molecular biology.

**Keywords:** Actinomycosis, Scrotal

## INTRODUCTION

*Actinomyces turicensis*, Gram positive bacillus, is a commensal bacteria of the men digestive system and women genital tractus. However rare cases of *Actinomyces turicensis* recognized infections are listed in literature.<sup>1</sup> We have reported a case of scrotal abscess caused by *Actinomyces turicensis*.

## CASE REPORT

A patient aged 22 years old who is consulted for Permanent pain at the left bursa with developed paroxystics pain since one week in the context of apyrexia. The clinical exam revealed an inflammatory tumefaction at the root of the left bursa with left inguinal adenopathy. The rest of the clinical exam was without particularity. The biological check-up had been rated a hyperleukocytosis at 17000/mm<sup>3</sup> with 73% of the

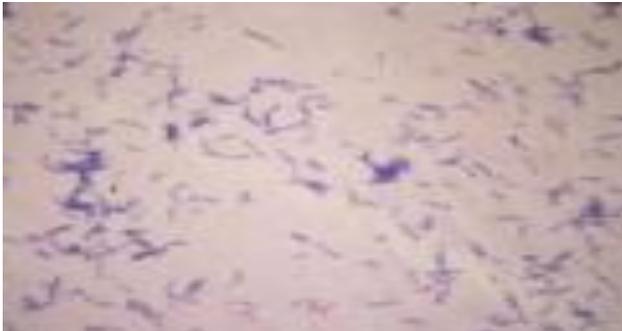
polymorphonuclear neutrophil and a C reactive protein at 18mg/L. The diagnostic of an abscess of the root of the left bursa was deducted and the patient benefited of surgical intervention. Evacuation and a wash of the cavity by the antiseptic (hydrogen peroxide, physiological serum, Betadine) had been realized. Sample of the abscess was at the same time realized and sent to the laboratory for bacteriological examination. The direct examination after Gram coloration had shown several neutrophils. The culture on a chocolate agar and Schedler agar was positive after forty-eight hours of incubation at 37°C with 5% of CO<sub>2</sub>, the culture had been monomorphic with Gram positive coryneform (Figure 1). Biochemical identification was realized by API gallery Coryne<sup>®</sup> (bioMérieux) which had permitted, after seventy-two hours on incubation about 37°C, the identification of *Actinomyces turicensis*, then a confirmation of the identification had been realized by sequencing of the ribonucleic ribosomal acid 16s (ARN16s). The

antibiogramme had been realized by a diffusion method on the middle agar according to the CA SFM recommendation and had shown the benzylpenicillin, amoxicillin, ceftriaxone, erythromycin, lincomycin, linezolid, tetracycline, rifampicin, sulfamethoxazole/trimethoprim, teicoplanin and vancomycin sensibility and gentamicin, and norfloxacin resistance.

The diagnostic retained is a scrotal actinomycosis caused by *Actinomyces turicensis* and the patient had been kept under Amoxicillin and clavulanic acid 2g/j. The evolution had been marked by clear clinical improvement.



**Figure 1: Culture on gelose with cooked blood: small monomorphic colonies appeared after 72 hours.**



**Figure 2: Aspect of *Actinomyces turicensis* after colouring the Gram.**

## DISCUSSION

*Actinomyces turicensis*, bacillus with Gram positive, immovable and anaerobic, is a saprophytic of the human natural cavities in particular of the buccal cavity and the gastro-intestinal tract and women genital tracts.<sup>1</sup> This commensal germ can rarely become pathogenic in case of the anaerobiosis or in the association with a microbial flora, the contamination mostly done by ascendante pathway follow up by an effraction of the cutaneous-mucosal barrier, the hematogenic and sexual pathway are frequent less.<sup>2,3</sup> The most frequent locations of the actinomycosis are cervico-facial and are allocated to bad Bucco-dental hygiene, the abdomino-pelvien locations

often associated to extend port of a dispositive intra-uterine are frequent less.<sup>3</sup>

The scrotal actinomycosis are rare location, it had been described once in literature with a patient within the framework of the gangrene.<sup>4</sup> For our patient, the digestive flora is probably the principal source of the contamination; the scrotal folliculitis represented the entry door. Clinical aspects of the actinomycosis are polymorph and non-specific, the symptomatology depends on the location, often is a subacute or chronic tumor and inflammatory syndrome.<sup>1</sup> Unlike the pyogenic abscess, the slow development of the actinomycosis causes extension with noise and producing of the adherences and the fistulas. Morbidity is significant toward the chronicity of the damage.<sup>2</sup>

The bacteriological diagnostic is essential to confirm the etiology and adopt the therapeutic, it is done from the abscess sample or the infected-tissue biopsy, the direct examination after Gram coloration can permit to put on evidence the bacillus with Gram positive grouped in fence, the cultivation had been realized on the middle of enriched gelose and incubated under CO<sub>2</sub> and in anaerobic, the slow growth relatively of the *Actinomyces turicensis* represents a diagnostic difficulty in which its utility is to extend the culture during five days.<sup>5</sup> The identification had based on biochemical character studies on the APICoryne which must keep about 37°C during seventy-two hours, which is not always easy to succeed, and the interest of the mass spectrometry and/or the molecular biology.<sup>5</sup>

The benzylpenicillin constitute the major treatment, another antibiotics as the clindamycin, the rifampicin and the tetracycline are active, and the strong doses of the benzylpenicillin about daily dose from 10 to 20 million unity per week during four to six weeks then a rely of oral penicillin-therapy during four to twelve months were used.<sup>6</sup> The surgical treatment practiced most of the time in mistaken case of preliminary diagnostic, keep its place in case of the fistula damage or abscessed and in resistant form of the antibiotherapy.

## CONCLUSION

The scrotal actinomycosis is a rare location, the identification in species by conventional tests is not always easy regarding the multiplication relatively slow of this bacteria and the molecular biology technics is often necessary.

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