

## *Streptococcus pneumoniae*: is it like *Streptococcus bovis* predictor of colorectal cancer?

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### Abstract

We describe a case of *Streptococcus pneumoniae* rectal abscess in a patient who hospitalized for a pelvic neoplastic process. This is the first report of *Streptococcus pneumoniae* infection associated with a colorectal cancer in an adult in Algeria.

### Case Report

A 70 years old Mrs. H.S. was hospitalized in the surgical department on 20/04/2008 for support of a left ovarian neoplastic process. A few days earlier, the patient experienced severe pelvic pain. In the patient's history, (we found metrorrhagia in small abundance without any sign of support that lasted for 5 years. On admission, the patient was afebrile and lethargic with normal vital signs .B/P: 110/80, pulse rate: 60/mn and good Mucocutaneous color. Abdominal examination found a hypersensitivity to palpation. Furthermore, there was no visible scar swelling and we found a palpable mass or Hepato splenomegaly. The biological assessment showed leukocytosis 11,109 / l, hemoglobin of 12.4% and a hematocrit of 38.7. The chest x-ray and cardiac Doppler evaluation were normal. The pelvic ultrasound showed a thick shaped left latero-uterine multilocular measuring 11 cm in diameter with vegetation class IIIc minimal. The abdomino-pelvic CT made prior to admission on 13/04/08 showed the view of a solid mass-cystic pelvic rétrolatéro-left uterine heterogeneous enhancement after contrast, roughly rounded, well marked, measuring 79X63 mm major axis. This approach provides a deep-seated look without obvious invasion (progress in the uterine body adjacent to the rectum. The body of uterine involution was of normal density. The bladder was homogeneous, with smooth contour and thin-walled with no dilated ureters. The proctoscopy made on 26-04-08 found a budding process rectal hemi-circumferential non stenosing to 8 cm from the anal margin, peritumoral abscess with fistula. The collection of pus obtained after puncture of the abscess was inoculated on the usual media. After isolation of alpha-hemolytic colonies, a test for optochin and the antibiotic sensitivity by scattering technique on MH + blood CLSI (Clinical and Laboratory Standard Institutes, CDC, Atlanta, USA) were performed. The following antibiotics were tested: Erythromycin, Pristinamycin, Clindamycin, Tetracycline, Levofloxacin, Cotrimoxazole, Chloramphenicol, Vancomycin, Teicoplanin, Fosfomicin (Biorad. Marnes la coquette, Paris, France). The search for reduced

susceptibility to penicillin was performed on a Muller Hinton with blood media and an inoculum of *S.pneumoniae* diluted at 1 / 10 of which filled 1µg and 5 µg oxacillin disks. MICs to penicillin, amoxicillin, Cefotaxime and imipenem and grouping of *Streptococcus pneumoniae* were performed in the laboratory of bacteriology and chemotherapy of the Pasteur Institute of Algiers

18 h after incubation at 35 ° C, a culture rich and pure of alpha-hemolytic mucosa colonies, suggestive of *Streptococcus pneumoniae* was obtained. The identification test to optochin performed on the colonies regained sensitivity (diameter: 15mm). The antimicrobial susceptibility test showed sensitivity to all antibiotics. MICs were: penicillin 0.125 mg/l, amoxicillin 0.063 mg/l, Cefotaxime at 0.063 mg/l, and Imipenem at 0.063 mg/l, the strain was a *Streptococcus pneumoniae* group 3.No further complaints of pelvic pain were noted following the draining of fistul abscess. After the patient nutritional status improved, surgery was performed. The histological study of the anatomical specimen was found with adenocarcinoma of the rectum.

Systemic infections such as *Streptococcus bovis* septicemia or endocarditis are now known to be indicative of colorectal neoplastic processes. Many studies have reported cases of colorectal cancer associated with this agent (14-3-12-13-16). The recommended screening colonoscopy after the diagnosis of endocarditis or sepsis with *Streptococcus bovis* diagnosed colorectal cancer in 56 to 75 % (8-2-4-6-1). This association has been reported since the 1980s (14) and patients are considered high-risk malignant. *Streptococcus pneumoniae* also appears to be associated with colorectal cancer. Cases of sepsis and endocarditis (5-7-11) from *Streptococcus pneumoniae* associated in immunocompromised patients with hematologic malignancy (Hodgkin's disease, multiple myeloma and chronic lymphocytic leukemia) but also with colorectal cancer (9) have been described. A case of pneumococcal psoas abscess has been described for the first time in 2001(15).These unusual infections, described in the literature are the results of invasion of the close tissues or organs to the tumor or secondary to bacteremia from necrotic tumor, for distant infections.

**In Conclusion:** *Streptococcus Pneumoniae* seems to be as *Streptococcus bovis*, a predictor of colorectal cancer. So, investigations of the colon and rectum might be advisable after any unusual invasive or suppurative pneumococcal infection is diagnosed in immunocompromised adults.

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