Postoperative Mediastinitis Due to *Finegoldia magna* with Negative Blood Cultures

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We report a case of *Finegoldia magna* (formerly known as *Peptostreptococcus magnus*) mediastinitis following coronary artery bypass in a 50-year-old patient. Even if staphylococci remain the main causative organism of postoperative mediastinitis, the responsibility of anaerobic bacteria must be considered in cases of fever and sternal drainage with negative blood cultures.

CASE REPORT

A 50-year-old man was admitted to the cardiothoracic surgery department to undergo coronary bypass surgery. His medical history was notable for high blood pressure, dyslipidemia, and myocardial infarction 2 years earlier, treated by percutaneous angioplasty of the right coronary artery. He also had undergone two surgical interventions on both maxillary sinuses in the past 20 years for recurrent sinusitis. Because of persisting chest pain episodes 1 year after the myocardial infarction, a cardiac catheterization was performed, which disclosed double-vessel coronary atherosclerosis. The patient underwent a double internal mammary-coronary artery bypass on 15 October 2008. The prophylactic antibiotherapy protocol included intranasal application of mupirocin before and 4 days after the intervention and intravenous cefamandole during surgery. Neither intraoperative nor immediate postoperative complications were noted. Three days after surgery, the patient was febrile at 38.9°C, in association with dehiscence and instability of the sternum, moderate pain, and local erythema. There was no sign of necrosis of the skin. His leukocyte count was 12,000/mm³. Three blood samples, respiratory, and urine samples were drawn, and all aerobic and anaerobic cultures were negative after 24 h (BacT/Alert with FAN medium containing charcoal; Biomerieux, Lyon, France). Purulent wound discharge appeared the day after, for which Gram stain and cultures were also negative after 24 h. Because of persistent fever and abundant exudates draining from the median sternotomy incision, a deep sternal puncture was performed. Cultures of the mediastinal fluid were all negative except for a single enriched liquid medium, which grew *Streptococcus oralis*. The patient was placed under intravenous antibiotherapy by amoxicillin (amoxicilline), vancomycin, and gentamicin on 21 October and underwent extensive sternal and mediastinal debridement with placement of eight mediastinal drainage tubes on the same day. Blood cultures, all performed before administration of antibiotics, remained negative. However, all intraoperative cultures of mediastinal material grew within 48 h, and *Peptostreptococcus sp.* 16S RNA gene amplification and sequencing were carried out as described previously (11), leading to the identification of *Finegoldia magna* (formerly *Peptostreptococcus magnus*). The strain was susceptible to metronidazole and amoxicillin and resistant to clindamycin and erythromycin. Vancomycin and gentamicin were discontinued, and metronidazole was added to the amoxicillin. Apyrexia was obtained 2 days after surgery, and the patient completed a 6-week course of amoxicillin and metronidazole. On the last visit, 90 days after the first surgery, the patient was afebrile with satisfactory sternotomy closure.

*Finegoldia magna* is a gram-positive anaerobic coccus, part of the normal flora of the human mucocutaneous surfaces. It is frequently isolated in infections of soft tissues and the peritoneal cavity, and a few cases of endocarditis and pericarditis have also been reported (2, 9, 12, 17). Poststernotomy mediastinitis due to *F. magna* is far more uncommon. To our knowledge, only five cases formally due to *F. magna* have been reported to date (Table 1) (4–8, 15). As shown in the table, anaerobic mediastinitis following cardiothoracic surgery is often polymicrobial (Table). However, in our case the association with *Streptococcus oralis* was not considered significant, since the *S. oralis* strain had been cultured in only one specimen in enriched medium and was not recovered in intraoperative cultures. Since anaerobes are often isolated in deep wound infections, it is surprising that anaerobic mediastinitis has been reported infrequently. Considering the increased isolation of anaerobic bacteria observed discussed elsewhere (10), one can hypothesize that this is due to...
Formerly cultured specimens with anaerobic bacteria only and nine with mixed aerobic, facultative, and anaerobic bacteria over a series of 74 patients with postthoracotomy sternal wound infection. Negative blood cultures remain common despite the use of prophylactic antibiotics (12). Although we cannot exclude that the blood culture system might have failed, in our patient the blood cultures, taken before administration of antibiotics, were initially negative. However, we cannot exclude that the blood culture system might have failed.

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In conclusion, anaerobic agents can be responsible for postoperative mediastinitis even if staphylococci remain the main pathogen. Appropriate sampling and culturing can probably lead to increased isolation of anaerobic pathogens in this postoperative period. Appropriate culturing and sampling can be varied between different hospitals, and therefore, the bacterial etiology remains uncertain in many cases. As illustrated in our case, a diagnosis of bacterial mediastinitis is highly plausible for a patient with fever, mediastinal pain, drainage, or dehiscence following cardiothoracic surgery, even in the presence of negative repeated blood cultures. More invasive procedures for confirmation of bloodstream infection are also classically not associated with positive blood cultures (13, 16), and gram-positive anaerobic cocci are difficult to grow. However, the high rate of recovery of anaerobic bacteria is probably due to the systemic use of deep wound puncture (4). Medical procedures for confirmation of bloodstream infection are also classically not associated with positive blood cultures (13, 16), and gram-positive anaerobic cocci are difficult to grow.

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