

***Stenotrophomonas*: A New Threat?**

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Abstract

Environmental organisms or plant-associated bacteria are being isolated with increasing frequency from humans, especially in the critical care units. We here report a case of pancreatitis complicated by intra-abdominal *Stenotrophomonas* infection in a 21-year-old puerperal female. Antibiotic therapy for this patient had to be decided empirically and the patient recovered after 14 days of therapy.

Key words: Pancreatitis, *Stenotrophomonas*, abscess, levofloxacin.

Introduction

In recent times, antibiotic resistance has emerged as an important threat in critical care. On the one hand, common pathogenic bacteria have developed resistance to almost all the antimicrobial agents and on the other hand, newer pathogenic bacteria with intrinsic multi-drug resistance are being isolated with increasing frequency. Bacteria which are usually known to be environmental isolates or animal pathogens are now isolated from human clinical specimens. Treatment protocols for such infections are often non-existent and clinicians have to decide on the treatment empirically.

We here describe one such rare infection from Eastern India.

Case report

A 21-year-old female patient presented with severe abdominal pain, two days after an uncomplicated caesarean section. She was, at first, treated conservatively and gynaecological complications were ruled-out. A CT scan of abdomen revealed (Fig. 1) acute necrotising pancreatitis. However, no gallstones were visualised and there was no anatomical abnormality in the pancreas. Total leukocyte count was 19,000/cmm with 86% neutrophils. Blood lipid profile was normal. The patient developed fever and initially no antibiotics were given. Blood culture was also negative. But when high fever persisted after day 3, image guided aspiration was done from the peri-pancreatic collection. Culture of this aspirate grew *Stenotrophomonas maltophilia*. In the Vitek system, only two antibiotics could be tested for resistance, cotrimoxazole (resistant) and levofloxacin (sensitive). The system was not calibrated to test for resistance against other antibiotics in this particular organism.

Thus, the antibiotic protocol for this infection had to be decided after consultation with microbiologists. We started her on i.v. minocycline, levofloxacin and colistin. The colistin was stopped after 7 days as the fever came down and abdominal pain subsided. USG guided aspiration of the peripancreatic collection was also done. Total leukocyte count also came down to 9,970/cmm after day 5. The patient was discharged after 14 days of i.v. antibiotic therapy.

Discussion

Stenotrophomonas maltophilia, earlier called as *Pseudomonas* or *Xanthomonas maltophilia*, has emerged as an important pathogen in recent times¹. It is an aerobic, non-sporulating, non-fermenting gram-negative bacillus and in recent times, there are case reports of this organism isolated as a nosocomial pathogen¹. Primarily, this is a plant pathogen and is extensively isolated from soil and water¹. Usually, this organism is considered to be of low virulence and infection is reported in immunocompromised hosts¹. In the present case also, the patient developed the infection just after pregnancy, an immunocompromised condition.

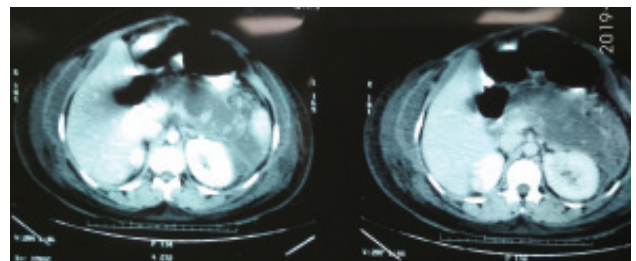


Fig. 1: CECT abdomen of the patient showing necrotising pancreatitis with peripancreatic collections.

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Stenotrophomonas infection can involve any system of the body. In a recent study from Greece, Samonis *et al* found that out of *Stenotrophomonas* cases, respiratory tract infection was the commonest, followed by bloodstream infection and skin and soft tissue infection². Isolation of *Stenotrophomonas* from a clinical specimen does not always signify infection because it is a common environmental contaminant¹. But isolation from sterile sites like the peritoneal cavity, as in our case, usually signifies infection.

Stenotrophomonas is said to be generally poorly sensitive to beta-lactam antibiotics, including carbapenems¹. In the aforementioned study from Greece, the isolated organisms were also found to be resistant to beta-lactams, while they exhibited good sensitivity to colistin, aminoglycosides and cotrimoxazole². But in our case, the organism was resistant to cotrimoxazole, with MIC > 320 µg/ml. Thus, we chose colistin, levofloxacin and minocycline as preferred therapy, along with drainage of the collection. As our Vitek system was not equipped to check for drug sensitivity to other agents, we had to decide on the therapy empirically, based on available literature. Minocycline and levofloxacin has also been used for successful therapy of *Stenotrophomonas* by other authors, especially for the treatment of pneumonia^{1,3}. I.v. therapy is not always necessary and oral therapy with levofloxacin has also been found to be successful, especially for pneumonia.

The need for antibiotics in cases of pancreatitis is a contentious issue. In pancreatitis, antibiotic treatment is not always necessary. Fever and leucocytosis may occur as a result of pancreatic inflammation only and does not signify infection *per se*. But persistent fever with other systemic features of sepsis should be taken seriously. Every attempt

should be made to find any infecting organism, with invasive procedures like aspiration of peripancreatic fluid, if necessary. In pancreatitis, imipenem is often used as an empirical first line therapy⁴. But in cases of *Stenotrophomonas* and similar such infections, imipenem would be ineffective and continuing with this empirical therapy without microbiological diagnosis will increase mortality⁴. Thus, proper microbiological diagnosis should always be attempted wherever possible.

Conclusion

We present this case to sensitize clinicians to this rare emerging infection. Often, antibiotic sensitivity pattern of this organism is not available and then, treatment protocol has to be decided empirically, in conjunction with clinical microbiologists.

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