Septic arthritis secondary to *Streptococcus Equi* Subspecies *Zooepidemicus*: a case report

D.Jouida, A.Mougui, I El Bouchti

Rheumatology department, CHU Mohamed VI Marrakech

Introduction

The streptococcus Equi is an unusual germ in human infections, it is part of the usual flora of horses. Rare cases of infection with this germ have been identified in humans. We report here a case of a septic monoarthritis secondary to this germ.

Clinical case

74 year old patient, farmer, cholecystectomized 7 years ago, admitted for acute inflammatory pain of the left knee with swelling, in a context of febrile sensation. The patient developed fever 5 days before his admission which was not associated to chills or sweat. His recent medical history did not reveal any trauma, operation, injection or skin lesions in or around the left knee

The clinical examination, found: a patient with no fever his left knee was warm and swollen , with presence of a left patellar shock, and infiltration of the soft tissues.

A bi-antibiotherapy based on penicillin M and Gentamycin was started after taking the balance sheet. The infectious balance, shows: A biological inflammatory syndrome with leukocytosis at 12 000 predominantly neutrophils, a C reactive protein at 215 mg / l, and a erythrocyte sedimentation rate at 113 mm, joint puncture revealed a purulent fluid with leukocytes clusters and the culture showed a growth of Gram-positive cocci in chains identified as *Streptococcus equi* subspecies *zooepidemicus*. After this microbe was isolated, further history revealed that not only he had a close contact with animals but also ingestion of unpasteurized dairy products.

The rest of the clinical and radiological balance showed no abnormality. Antibiotic therapy was adjusted according to the antibiogram, and switched to ampicillin-sulbactam, in combination with gentamycin, then with ciprofloxacin intravenously for 4 weeks, then relayed by amoxicillin orally for 1 month, with a good clinical and biological evolution.

Discussion

Streptococcus zooepidemicus (Fig1) has traditionally been classified under Lancefield Group C Streptococci. Group C Streptococci than *S. zooepidemicus* have been found to be a part of normal human flora in the nasopharynx, genital tract and on the skin . *S. zooepidemicus* is not considered to naturally reside at any human body site, and all infections from this organism are assumed to be from animal sources and are usually linked to veterinary contact . Initially known to cause infections primarily in horses, it is well documented that this organism can also infect other animals such as goats, pigs, dogs and cats. The most commonly identified means of transmission to humans is close contact with horses or on consumption of unpasteurized dairy products.

Fig 1: Aspect in electron microscopy of the *Equi streptococcus*

These infections have been reported sporadically and in outbreak clusters. In our patient the most probable source of infection was the close contact with sheep and goat and also ingestion of unpasteurized dairy products. Although infections secondary to *S. zooepidemicus* are rare, this organism has the potential to invade different body sites. Bacteremia, meningitis, endophthalmitis, endocarditis, pericarditis, pneumonia and poststreptococcal glomerulonephritis have been reported . Musculoskeletal infections, however, are very rare. Beta lactam antibiotics, particularly penicillin, are considered as agents of choice for Group C Streptococcal infections. There is some evidence that the addition of aminoglycosides may result in better outcomes compared with monotherapy in severe infections such as infective endocarditis

Conclusion

S. zooepidemicus is a very rare cause of septic arthritis in humans, but can lead to severe and resistant infections. It must be suspected in patients who have had direct contact with animals, especially horses or who present from rural areas.

1-Sinner SW, Tunkel AR. Viridans Streptococci, Groups C and G Streptococci, and Gemella species. In: Mandell GL, Douglas RG, Bennett JE, editors. Principles and practice of infectious diseases, 7th ed. Philadelphia, PA: Churchill Livingstone Elsevier; 2010. p. 2667–80.

2- Rajasekhar A, Clancy CJ. Meningitis due to group C streptococcus: a case report and review of the literature. Scand J Infect Dis 2010;42: 571–8.