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Paper Poster Session
Endocarditis

Erysipelothrix rhusiopathiae: an uncommon zoonotic case of bacteraemia with mitral valve endocarditis following confirmed occupational exposure to poultry

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Background: *Erysipelothrix rhusiopathiae*, a gram-positive rod, has a worldwide distribution and is well known to cause economically important disease in domestic animals of which swine, sheep and poultry are most notable. Disease in humans is usually closely related to occupational exposure. Erysipeloid, a cutaneous lesion following local trauma through an infected source, can rarely lead to a systemic bacteraemia with or without endocarditis.

Case presentation: In October 2015, a 37 year old man, presented to the emergency centre of a district hospital in Paarl, Western Cape, South Africa complaining of a two week history of central chest pain radiating to his back. He was employed at a local free range chicken farm as a coop cleaner and recalled suffering a superficial penetrating skin injury from a quill to his lower leg whilst cleaning one of the chicken coops two to three months earlier.

General examination revealed a small hyper-pigmented area on the skin of his lower leg. On cardiovascular examination, a laterally displaced apex with a loud grade 5 pansystolic murmur was found. Special investigations including blood tests, blood cultures and imaging were ordered.

Echocardiography performed a day after admission confirmed the presence of mild left ventricular dilatation as well as severe mitral valve prolapse secondary to cord rupture. Vegetations on the atrial surface of the anterior and posterior mitral leaflets were also noted. Treatment was commenced with IV ampicillin (due to a shortage of penicillin G) and gentamicin.

The set of blood cultures performed on admission revealed pleomorphic gram-positive rods. On culture, colonies were α-haemolytic, catalase negative and resistant to vancomycin. *E. rhusiopathiae* was identified with the VITEK® 2 automated identification system. Isolates tested susceptible to penicillin with the Etest® method.

Following transfer to the Division of Cardiology at Tygerberg Hospital, Parow, South Africa an open thoracotomy with resection of damaged and infected tissue as well as repair of the mitral valve was successfully performed. Antimicrobial treatment with ampicillin was continued to complete a period of six weeks in total.

Conclusion: Worldwide, only around 90 cases of *E. rhusiopathiae* bacteraemias have been reported to date. Most of these cases present with endocarditis of native valves. Generally men are affected more than women and only about a third of cases have a confirmed history of occupational exposure to a common animal source. *E. rhusiopathiae* endocarditis has shown a 50% higher mortality rate than endocarditis caused by other bacterial organisms. This case study highlights the importance of thorough history taking, the value of ordering appropriate special investigations and the need for

prompt initiation of antimicrobials in cases where an infectious cause for cardiac disease is suspected in order to minimize patient mortality.