INTRODUCTION

Non-gonococcal non-meningococcal Neisseria sp. normally inhabits the upper respiratory tract in human beings. There are four recognized species within the genus: N. sicca, N. mucosa, N. subflava and N. flavescens. They have low pathogenicity. Among them, Neisseria mucosa and N. sicca have been described to cause endocarditis. To our knowledge, this is the fourth reported case of prosthetic valve endocarditis due to Neisseria mucosa (1, 2, and 5).

CASE REPORT

A 56-year-old male with a past medical history of aortic valve replacement in 1997 with St. Jude mechanical prosthesis was brought in by EMS for evaluation of dizziness and weakness. The patient was working in a factory when he felt dizzy and fell down, but denied loss of consciousness, urinary or bowel incontinence. The patient was admitted with an impression of near syncope. On admission vital signs were stable, no orthostasis, afebrile but blood work showed WBC count of 17.4; so blood cultures were drawn. Chest X-ray did not show acute infiltrate. Echocardiogram showed EF of 37%, mildly dilated left atrium and left ventricle, akinesis of anterior/posterior and apical walls of left ventricle and prosthetic aortic valve with a peak gradient of 28mmHg. Holter study was unremarkable. The patient was discharged on his home medications. Four days later, the patient was called back as the blood cultures drawn on admission were growing Neisseria sps, non-gonococcal, non-meningococcal. On this admission, the patient complained of tactile fever at home. In ER, patient’s temperature was 103.8F and blood pressure of 138/60 mmHg. The patient was admitted to the intensive care unit for monitoring with the impression of rule out prosthetic valve endocarditis. In the intensive care unit he had episodes of hypotension, which responded to fluid boluses. Infectious disease consult was done, 3 more sets of blood cultures were drawn and the patient was treated with vancomycin, gentamycin and ceftriaxone. Cardiology was consulted and performed transesophageal echocardiography which showed a mobile vegetation on the prosthetic aortic valve measuring approximately 10 × 7 mm with trace AR, no thrombus and no intracardiac shunt. Repeat blood cultures again grew Neisseria sps, non-gonococcal, non-meningococcal and antibiotics were changed to penicillin and gentamycin. Two days later, the patient complained of erythema and swelling of his left foot (picture below). MRI brain with contrast and CT scan of abdomen and pelvis were done, which did not show embolic phenomenon or any other source of infection. Dental exam of the oral cavity showed accumulated lingual plaques, which could have been the source of septicemia. Repeat blood cultures were negative. Previous blood culture samples sent to the Department of Health proved the organism to be Neisseria mucosa. The patient was transferred to New York Presbyterian Hospital for replacement of the valve. While at New York Presbyterian Hospital, he underwent a CT angiogram to evaluate his coronary arteries which revealed no evidence of significant coronary artery disease but did reveal an aortic valve mass, measuring 1.1x 0.4 cm, consistent with vegetation. The patient underwent aortic valve replacement. The removed prosthetic aortic valve was sent for pathological examination, which showed 0.5x0.2 x 0.2 cm fragment of adherent fibrinopurulent material. A gram stain was negative for the bacteria.

DISCUSSION

Our case fulfills the Modified Duke criteria for prosthetic valve endocarditis. As per our search of literature this is the fourth case of prosthetic valve endocarditis due to Neisseria mucosa (2, 3, and 6). Oral cavity is the usual source of Neisseria mucosa endocarditis. The patient in our case never had a dental procedure done after the valve replacement in 1997, but the dental plaques seen in oral cavity examination could have been the source. Neisseria mucosa endocarditis has been treated with different cidal antibiotics, the usual combination being penicillin and an amino glycoside. The indication for surgical intervention of prosthetic valve endocarditis according to ACC/AHA guidelines is heart failure, dehiscence seen by fluoroscopy or echocardiography, evidence of increasing valve obstruction or worsening regurgitation, or complications such as abscess formation (Class I evidence). In this case, the patient was sent for the valve replacement because of episodes of hypotension, the size of the vegetation, and the erythema and swelling of the left foot, which was thought to be secondary to embolic or immunologic phenomenon.

CONCLUSION

Though Neisseria mucosa has low pathogenicity, it can cause systemic infections and should be considered in the differential of organisms causing prosthetic valve endocarditis.

BIBLIOGRAPHY