Infective endocarditis following wisdom tooth extraction in a professional basketball player with bicuspid aortic valve

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Background:

Bacterial endocarditis may be rare, but is a fatal complication following routine dental procedures. Although patients with bicuspide aortic valve are considered to be at intermediate risk of bacterial endocarditis, administering antibiotic prophylaxis before dental procedures is not recommended by international guidelines.

Case presentation:

A 45-year-old male former athlete with a bicuspid aortic valve presented septic with a prolonged fever and occasional disorientation 10 days after tooth extraction. Diagnostic tests confirmed staphylococcal bacterial endocarditis of the aortic and mitral valves, resulting in severe regurgitation. Magnetic resonance imaging confirmed septic-embolic encephalitis, while computed tomography angiography revealed an aortic root abscess near the origin of the left coronary artery. Targeted antibiotic therapy (flucloxacillin 6x2 g, gentamicin 3x80 mg) and surgical procedure involving replacement of both valves and aortic root reconstruction led to initial improvement in the clinical status. During the following two months, further deterioration in heart function was observed, accompanied by severe intravascular hemolysis, anemia and renal insufficiency due to a paravalvular leak of both mechanical prostheses. Furthermore, color doppler ultrasound investigation revealed pseudoaneurysm at the previous femoral artery puncture site. The patient underwent a second surgery to repair paravalvular leaks on both positions and resect the pseudoaneurysm. Despite narrow anticoagulant titration, further recovery was complicated by an intra-abdominal hematoma formation urging laparoscopic evacuation. Upon transfer to the cardiology department, the patient developed tachycardia, fever, chills, and an increase in inflammatory parameters. Candida parapsilosis was isolated from the blood culture, resulting in initiation of antifungal treatment (caspofungin 1x70 g). The patient was discharged 115 days after admission in good health.

Conclusion:

Infective endocarditis still carries high morbidity and mortality rate despite significant advances in antibiotic therapy and surgical techniques. Although antibiotic prophylaxis in bicuspid aortic valve patients is currently not recommended, recently published studies suggest these patients are at significant risk of native valve infective endocarditis. The potential benefit of antibiotic prophylaxis is still questionable, but should nevertheless be considered during invasive procedures.

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