Successful Treatment of A Case With Multiple Brain Abscesses Secondary to Infective Endocarditis



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A 33-year-old male patient presented with fever, vomiting, fatigue and right hemiparesis. His heart rate was 113 beats per minute and body temperature was 38.9°C. On auscultation, a 3/6 systolic murmur was heard over the cardiac apex. Transthoracic echocardiography revealed vegetative lesions on both mitral valve leaflets with severe mitral regurgitation. Similarly, a trans-esophageal echocardiography showed a vegetative lesion, 17 x 10 mm and 16 x 11 mm in size, on atrial sides of mitral leaflets, accompanied by severe mitral regurgitation (Figure 1). Empirical antibiotherapy with ampicillin and gentamicin was commenced. Cranial CT showed two hypodense lesions 3.0 cm and 3.5 cm in size, on the left para-falcine area and occipital lobe, respectively. Cranial MRI revealed multiple cortical and subcortical lesions, which were surrounded by hyper-intense edematous zones (Figure 2). Staphylococcus aureus was isolated from blood cultures and a switch to vancomycin from ampicillin was made. The patient underwent successful mitral valve repair procedure with a ring annuloplasty after (Figure 3) 2 weeks of antibiotic treatment, which was continued for four additional weeks postoperatively. All symptoms resolved, including right hemiparesis, and follow-up MRI revealed apparent regression of cranial lesions (Figure 4). The patient was discharged at the completion of antibiotic therapy and remained asymptomatic at 3 months of follow-up. Appropriate antibiotic therapy and early valvular surgery may reduce morbidity and mortality in patients with infective endocarditis, even if accompanied by neurological complications.



Figure 1. (A) Vegetative lesions (arrows) on both leaflets of the mitral valve and (B) accompanying severe mitral regurgitation, as shown by transesophageal echocardiography.



Figure 2. T2 weighted images on cranial MRI showing multiple septic subcortical brain abscesses (arrows).



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Figure 3. Transesophageal view of the mitral apparatus free of vegetations after surgical repair with a ring at the annulus.



Figure 4. Follow-up cranial MRI demonstrating dramatic improvement of the brain abscesses (arrows) 4 weeks after the valvular surgery.