

中文題目：藥物及手術治療對於心內膜炎合併多重血栓及感染:案例報告

英文題目：Successful treatment with antibiotics and minimal invasive cardiac surgery for severe complicated infective endocarditis: two cases report

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**Introduction:** Infective endocarditis (IE) remains a life-threatening disease, especially in severe and complicated IE. We report two cases of complicated IE with septic CNS emboli. Antimicrobial treatment followed by minimal invasive cardiac surgery was performed. Both patients were successfully discharged without severe complication.

### **Case presentation:**

Case1: A 61-year-old man suffered from progressive left flank pain for 5 days. Fever was noted on the next day. CT scan showed left renal and splenic lesions, suspecting infarction or abscess. He was transferred to our hospital. Physical examination showed petechiae, Osler nodes, Janeway lesions, abdominal LUQ tenderness, left CV angle knocking pain. Echocardiography cannot be totally excluded vegetation. Repeated abdominal CT showed splenic infarction, bilateral renal infarction and prostate abscess. Brain CT showed right fronto-parietal (FP) minimal subarachnoid hemorrhage (SAH). Lumbar puncture showed septic meningitis change or para-meningeal irritation with open and close pressure both 20cmH<sub>2</sub>O.

Blood culture yielded MRSA. Antibiotic was adjusted to vancomycin and linezolid later due to persistent fever and bacteremia. His blood culture turned to negative since day 17 of admission. Transesophageal echocardiography showed a 6.01 mm X 9.26 mm fuzzy mobile irregular lesion of aortic valve, suspected valvular vegetation with LV ejection fraction:54.2%.

During hospitalization, the patient had right side hemiparesis and dysphagia. MRI showed multifocal infarction without prominent hemorrhage transformation, possible septic emboli with hemorrhage transformation. Carotid sonography revealed very mild atherosclerotic change at the bilateral bulb and common carotid artery. Coronary angiogram revealed LM-CAD, stenosis 50%. His neurologic sign gradually improved under antibiotic treatment. But he had new left lower limb weakness, muscle power decreased to 2, since day 24 of admission. Brain MRI was done on day 27 showed another newly-developed embolic infarction at right periventricular region, and multiple cerebritis, without prominent hemorrhagic change.

CVS doctor performed aortic annulus reconstruction with pericardial patch, and aortic valve replacement (Perimount Magna Ease 23) on day 43. We kept antibiotic treatment for multiple infarction with suspected abscess formation and he was discharged under clear consciousness and controlled

infection.

Case2: A 43-year-old man male suffered from fever with left flank pain for one week. He had intermittent fever up to 40°C with cough and whitish sputum two months prior to admission. Two weeks before this admission, he had episodic multiple joint swelling and pain at both upper and lower limbs. Moreover, calf myalgia was also noted. Thus, he went to our Rheumatologic OPD for help, oral steroid was prescribed and the symptoms improved. In these two weeks, he also suffered from left flank pain, which exacerbated two days before admission. The pain would radiate to back, and exacerbated by motion and lying on left side.

At the emergency department, physical examination showed left costovertebral angle knocking pain, left upper quarter tenderness, continuous systolic murmur at cardiac apex area with pale conjunctiva. Abdominal echo revealed splenic infarction, and echocardiography disclosed vegetations at left ventricle and mitral valve. Abdominal CT revealed right renal abscess and splenic infarction.

After admission, empiric antibiotics were prescribed for suspected IE with sepsis. The blood culture yielded *Streptococcus sanguinis*. Transesophageal echocardiography showed anterior mitral leaflet chordae tendineae rupture (A3), and two vegetations, about 16.39\*4.51mm and 9.85\*2.72mm in size, located at posterior mitral leaflet. Delirium with speech disturbance and disorientation developed on day 7 of admission. Brain MRI showed multiple brain infarction with focal hemorrhagic transformation and suspect right occipital mycotic aneurysm. Infective endocarditis of mitral valve and rupture chordae tendineae with severe mitral regurgitation, multiple brain embolic infarction with suspected abscess formation, renal & splenic infarction with abscess were impressed. Linezolid was added from day 7 for better penetration to CNS lesion, but was revised to Moxifloxacin due to leukopenia and anemia. Aortic CT repeated on day 40 showed new lesion in mesentery, suspected pseudoaneurysm.

The patient received robotic mitral valve repair and resection of mesenteric pseudoaneurysm on day 50. The moxifloxacin was discontinued on day 62 due to QTc prolongation.

His clinical condition improved. Laboratory examination showed mild leukopenia, suspected Ceftriaxone related. The oral clindamycin was added on day 68 and Ceftriaxone was discontinued. On the day 70 of hospitalization, he was discharged under clinical improving condition.

### **Discussion:**

Complications of endocarditis include congestive heart failure, pockets of collected pus, encephalopathy/meningitis, and systemic embolization. These two cases had IE with systemic embolization, heart valve damage and CNS hemorrhage and infection. Adequate antibiotic treatment and timing cardiac surgery were important. Linezolid is not suggested in endocarditis treatment but may be helpful in embolic abscess formation. Surgery in patients with IE but without shock status may be arranged after infection control. Otherwise, minimally invasive valve surgery can be an alternative

approach to IE with lower surgical complication and faster recovery.

**Conclusion:**

Combining antimicrobial treatment with surgery are the keys to success for IE with complications. Antibiotic treatment needs to be adjusted by clinical condition, blood culture and side effects. Minimally invasive valve surgery for IE may be a good alternative approach.