

***Candida* Endocarditis:
The Insidious Killer**

Sir,

Candida endocarditis is one of the most serious

manifestations of candidiasis and a common cause of fungal endocarditis in more than 50% of cases.

A 63-year-old male patient, known case of pulmonary obstructive disease associated with diabetes and hypertension, came with a history of drowsiness for last 10 days. He underwent three abdominal surgeries during previous 8 months for sigmoid volvulus with intestinal obstruction. Fifteen days back, he had urinary incontinence and was catheterized at a local hospital.

On examination, patient was pale, febrile, conscious, drowsy, dehydrated, and hypotensive. Other systemic examinations did not reveal any abnormality. Blood glucose was 204 mg/dl and HbA1c was 42 mmol/mol. His renal profile was within normal range. Hematological investigation showed moderate microcytic hypochromic anemia with mild neutrophilia and normal platelets, and a raised erythrocyte sedimentation rate (ESR) value (65 mm/h). Abdomen ultrasonography showed findings suggestive of acute pyelonephritis. Urine culture yielded growth of three bacterial species. He was treated with intravenous broad-spectrum antibiotics. Liver function tests showed elevated enzymes, decreased total protein (5.8 g/dl), albumin 2.5 g/dl, total cholesterol 94 mg/dl, and high density lipoprotein (HDL) 22 mg/dl.

CT Brain showed evidence of right posterior cerebral artery territory infarct. There was no evidence of intracerebral hemorrhage or mass lesion. Five days after admission, new systolic murmur was heard during auscultation. Transthoracic echocardiography showed large vegetation (14 × 12 mm) attached to anterior mitral leaflet and small nodule attached to posterior mitral leaflet [Figure 1]. Moderate to severe mitral regurgitation was seen. Blood culture grew *Candida* species. Conventional amphotericin B infusion was started. Patient had persistent fever spikes and developed embolic complications. CT aorto-iliac

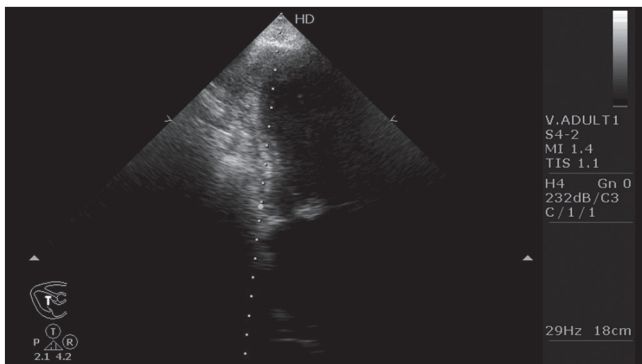


Figure 1: Transthoracic echocardiography showing large vegetation attached to anterior mitral leaflet

angiography showed complete occlusion of right distal external iliac artery and common femoral arteries of both limbs. Patient's condition did not improve and was taken to a different hospital. He died of fungal sepsis on the seventh day.

The diagnosis of fungal endocarditis should be aggressively pursued in patients having

1. Valvular disease,
2. Unexplained neurologic signs,
3. Peripheral embolization, often involving major vessels supplying the brain, extremities, and the gastrointestinal tract, and
4. Recently documented but untreated fungemia.

Diagnostic tests should include blood culture for fungi, laboratory mycologic examination of accessible emboli, echocardiography, and appropriate fungal antigen and nucleic acid diagnostic tests.

Patients with *Candida* endocarditis can develop other complications of candidemia, including endophthalmitis, vertebral osteomyelitis, and meningitis. Thus, all patients should be examined for signs of other complications of candidemia. The surgical excision of infected material may be critically important in patients with relatively resistant organisms, systemic emboli, valvular dysfunction, or factors preventing adequate medical therapy such as drug intolerance or significant renal dysfunction. For those infected with susceptible *Candida* isolates, antifungal treatment with lipid-associated amphotericin B or an echinocandin is the first line of choice.

Relapsing fungal endocarditis is seen in as many as 30-40% of patients who survive to complete short-term therapy.^[1,2] Long-term oral fluconazole therapy is appropriate after prolonged intravenous therapy.^[3] In an international multicenter prospective cohort study that included 33 cases of *Candida* endocarditis that were treated between 2000 and 2005, the mortality rate was 30%.^[4] This is substantially lower than the earlier mortality estimates of approximately 50%.^[5]

Fungal endocarditis is a rare illness that deserves attention. Because of advances in medical and surgical techniques, emerging complications like fungal endocarditis can threaten the success of novel therapies.

**Vithiya Ganesan,
Gowdara Shankarappa Vijay Kumar,
Shunmuga Sundaram Ponnusamy¹**

*Departments of Microbiology and
Cardiology, Velammal Medical College Hospital and
Research Institute, Madurai, Tamil Nadu, India*

Address for correspondence:

Dr. Vithiya Ganesan,
E-mail: vidhya.md@gmail.com

REFERENCES

1. Baddour LM. Long-term suppressive therapy for *Candida parapsilosis*-induced prosthetic valve endocarditis. *Mayo Clin Proc* 1995;70:773-5.
2. Fernández-Guerrero ML, Verdejo C, Azofra J, de Górgolas M. Hospital-acquired infectious endocarditis not associated with cardiac surgery: An emerging problem. *Clin Infect Dis* 1995;20:16-23.
3. Nasser RM, Melgar GR, Longworth DL, Gordon SM. Incidence and risk of developing fungal prosthetic valve endocarditis after nosocomial

candidemia. *Am J Med* 1997;103:25-32.

4. Baddley JW, Benjamin DK Jr, Patel M, Miró J, Athan E, Barsic B, *et al*.; International Collaboration on Endocarditis-Pro prospective Cohort Study Group (ICE-PCS). *Candida* infective endocarditis. *Eur J Clin Microbiol Infect Dis* 2008;27:519-29.
5. Ellis ME, Al-Abdely H, Sandridge A, Greer W, Ventura W. Fungal endocarditis: Evidence in the world literature, 1965-1995. *Clin Infect Dis* 2001;32:50-62.

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