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Fungal endocarditis leading to pulmonary embolism and death

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A 38 year-old male was admitted to the emergency room with fever and hemoptysis in the last 3 weeks. His past medical history included previous intravenous drug usage (20 years before), severe acute pancreatitis in the last year, and steroid therapy for the last 10 months due to presumptive diagnosis of bronchiolitis obliterans organizing pneumonia. The episode of pancreatitis required hospital admission, when the patient received total parenteral nutrition and also had an episode of pneumonia treated with antibiotics.

At the emergency room, a grade 3 systolic murmur in the left lower sternal border was heard. Chest radiography was normal. Blood tests demonstrated leukocytosis (13,890 mg/dL) and thrombocytopenia (99,000 mg/dL). Blood cultures yielded *Candida albicans*. Transthoracic echocardiogram (figure 1) was performed and showed tricuspid valve thickening, as well as a large echogenic mass (3.3 × 2.0 cm) attached to its leaflets, without tricuspid regurgitation.

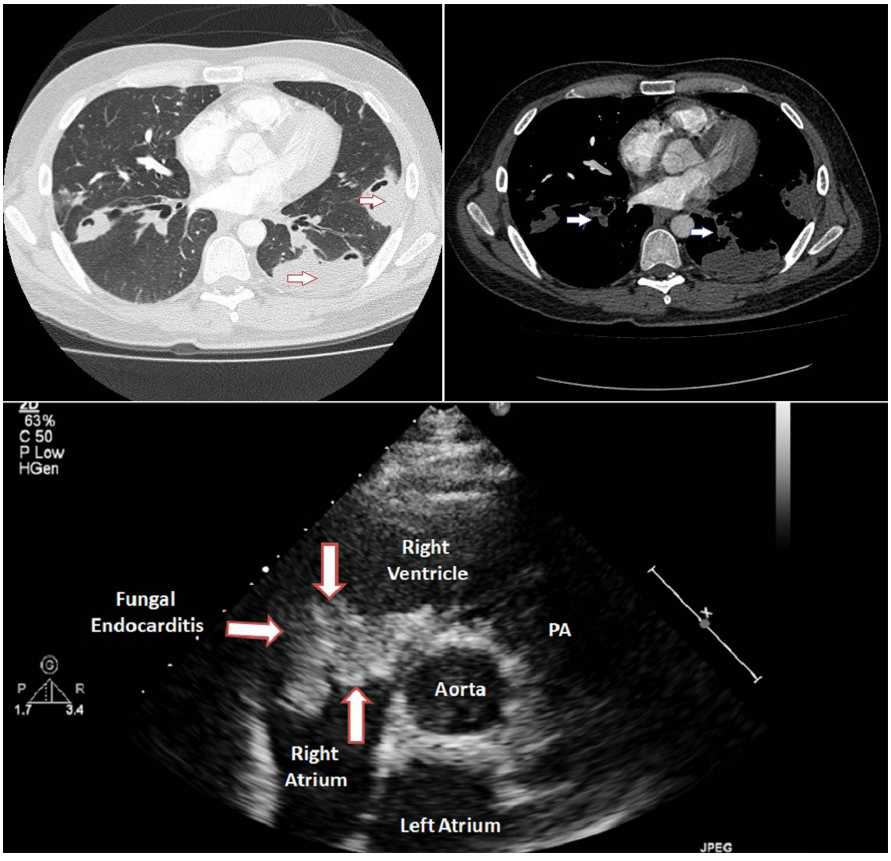

Figure 1: At the upper left corner, computed tomography (CT) with red arrows showing pulmonary infarction; at the upper right corner, CT with blue arrows showing septic thrombus; at the bottom, transthoracic echocardiogram with red arrows showing tricuspid endocarditis.

Moreover, there was a mobile image next to the right ventricular outflow tract, which could be the main lobe vegetation or even other vegetation attached to the outflow tract. Chest computed tomography (figure 1) showed bilateral occlusion of the lower lobe branches of the pulmonary artery associated with lung infarction in these areas. Antifungal therapy with micafungin was started and tricuspid valve replacement was performed 6 days later. The immediate postoperative period was uneventful and the patient was discharged from intensive care unit to ward 3 days after surgery. On the third week after surgery, he had pneumonia, empirically treated with vancomycin and meropenem. Thirty-three days after surgery he had sudden massive hemoptysis and died within 6 hours.

Fungal endocarditis is an uncommon condition; it is usually right-sided, has larger vegetation with a higher likelihood of embolization, and is associated with a mortality rate of up to 80%[1,2]. Echocardiogram is a mainstay tool in the diagnostic work-up of endocarditis, and fungal endocarditis is associated with large heterogeneous vegetations. Previous valve surgery, injection drug abuse, antibiotic use, intravascular catheters, and immunocompromised state (i.e., prolonged use of corticosteroids) are known risk factor for the occurrence of endocarditis[3]. Our patient had two of these risk factors. This case shows a classic image of valvular and pulmonary involvement of endocarditis, and was brought to illustrate how devastating a pulmonary septic embolism can be, and even after a long stable period patients may still develop acute events.

REFERENCES

1. Villaquiran J, Allen M, Marshall AJ, Ring NJ. Pulmonary embolism caused by Candida albicans. *J R Soc Med*. 2004;97(8):392-3. http://dx.doi.org/10.1258/jrsm.97.8.392. PMid:15286194.

2. Donal E, Abgueguen P, Coisne D, Gouello JP, McFadden EP, Allal J, et al. Echocardiographic features of *Candida* species endocarditis: 12 cases and a review of published Reports. *Heart*. 2001;86(2):179-82. http://dx.doi.org/10.1136/heart.86.2.179. PMid:11454836.

3. Habib G, Hoen B, Tornos P, Thuny F, Prendergast B, Vilacosta I, et al. Guidelines on the prevention, diagnosis, and treatment of infective endocarditis (new version 2009): the task force on the prevention, diagnosis, and treatment of infective endocarditis of the european Society of Cardiology (ESC). Endorsed by the European Society of Clinical Microbiology and Infectious Diseases (ESCMID) and the International Society of Chemotherapy (ISC) for infection and cancer. *Eur Heart J*. 2009;30(19):2369-413. http://dx.doi.org/10.1093/eurheartj/ehp285. PMid:19713420.

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