Carrie’s Crohn’s

Carrie, 35, presents with a one-week history of fever and pleuritic chest discomfort. She denies symptoms of:
- cough,
- dyspnea,
- orthopnea,
- palpitations,
- syncope or
- any risk factors for thromboembolism.

Carrie has a history of Crohn’s disease and is currently on chronic steroid therapy. She had a peripheral Port-A-Cath® inserted in the right brachial vein one year ago for supplemental feeding.

Carrie is febrile at 39.2°C and normotensive, yet demonstrates no other signs of systemic infection.

The cardiorespiratory examination is remarkable for:
- elevated jugular venous pressure at the angle of the jaw,
- right-sided third heart sound,
- tricuspid regurgitant murmur and
- signs of left upper lobe consolidation.

There are no peripheral manifestations of endocarditis. The right antecubital fossa and peripheral Port-A-Cath are normal in appearance, with no local signs of infection.

Carrie is empirically prescribed parenteral vancomycin and gentamicin. Transthoracic echocardiography demonstrates moderate tricuspid regurgitation with an ill-defined mass on the septal leaflet of the tricuspid valve.

A transesophageal echocardiogram confirms a large serpiginous mass extending from the superior vena cava (SVC) across the tricuspid valve into the right ventricle (Figure 1).

How would you diagnose Carrie?

Test results
- Blood cell count: Elevated white blood cell count of 22,000/µL with a left shift
- Preliminary sputum, urinary and blood cultures: Negative
- Chest radiograph: Upper left lobe infiltrate.
What’s Carrie’s diagnosis?

Under cardiopulmonary bypass, the mass is identified as originating from the superior vena cava and is successfully removed.

The specimen consists of a tan-gray, friable, tubular structure, 4.5 cm long and 2.5 cm in diameter (Figure 2). Histologic and microbiologic features are consistent with an acute thrombus embedded with Aspergillus fumigatus fungal forms (Figure 2). A latex test is negative for aspergillus antigen and serologic tests are negative for aspergillus antibodies.

The patient is treated with an eight-week course of amphotericin and fluconazole, without any detrimental effects.

What are the risk factors?

Aspergillus endocarditis is an opportunistic disease that affects immunocompromised individuals, often associated with high patient morbidity and mortality. Risk factors for the development of fungal endocarditis include:

- neutropenia,
- chronic corticosteroid therapy,
- broad-spectrum antibiotic use,
- long-term indwelling central venous catheters,
- intravenous drug use and
- cardiac surgery.

How does it manifest?

Although A. fumigatus is often introduced via the respiratory tract, direct inoculation through the skin (as through Carrie’s peripheral Port-A-Cath), can rarely occur.

The clinical manifestations include:

- fever,
- fatigue,
- weight loss and
- embolic phenomena.

Although blood cultures are rarely positive, echocardiography should be pursued if clinically suspected.

Aspergillosis is diagnosed by demonstrating fungi in tissue specimens obtained from the site of infection. Although narrow septated hyphae with acute angle branching are suggestive of this diagnosis, tissue culture remains the gold standard.

What are the treatment options?

Aggressive medical therapy with amphotericin, in addition to early surgical intervention, is recommended to offer an improved outcome.

References available—contact Perspectives in Cardiology at cardio@sta.ca.

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