Isolated Pulmonary Valve Vegetations in a Patient with Gastric Lymphoma Diagnosed by Endoscopic Ultrasound

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To the editor,

A thirty five year old man presented to the internal medicine department of Cairo University with anorexia, persistent vomiting and progressive weight loss of 2 months duration. The patient is known to be an I.V (intra venous) drug abuser for 6 years; he looked toxic with high grade resistant fever. CBC showed normal leucocytic count with relative PMN leukocytosis and lymphopenia. CRP titer was 179 mg/dl (N:<6mg/dl).

The patient was referred for upper endoscopy that revealed mild narrowing at the cardia with exaggerated gastric folds suggesting infiltrating wall disease; however endoscopic biopsies were inconclusive.

Due to the high clinical suspicion, EUS and EUS-FNA were done using Pentax EG-3830UT Echo-endoscope, connected to a HITACHI EUB-7000 sonography machine.

EUS could not pass to the stomach due to narrowing of the cardia by an irregular mass involving all wall layers and extending to the gastric fundus. EUS-FNA of the cardia and gastric fundal wall was done using a 22-gauge Echotip needle. During withdrawal of the Echo-endoscope to area 7 of the mediastinum, multiple small floating masses were detected adherent to the pulmonary valve (figure 1) suggestive of pulmonary valve vegetations that was confirmed by echocardiography. EUS-FNA revealed atypical lymphocytes positive for CD3 and CD5 indicating Non-Hodgkin gastric lymphoma. Three blood cultures were withdrawn and IV antibiotics (flucloxacillin and gentamicin) were started immediately, but unfortunately, two days later, the patient has sudden severe hypotension, dyspnea and cyanosis and arrested within few minutes, the cause of death was suggested to be due to massive pulmonary embolism.

Discussion

Infective endocarditis is an infection of the inner lining of the heart that usually involves one or more valves, the vast majority of cases involve the left side of the heart, with only approximately 5% involving the right side (1-2). Estimates of the incidence of infective endocarditis in IV drugusers have been hampered by the lack of reliable data; approximately 2 to 4/1000 cases have been described (3).

Isolated pulmonary valve endocarditis is extremely rare and represents 1.5-2% of patients with endocarditis (3-4). In case of IV drug users, it is more common to find tricuspid involvement, however review of literature showed isolated pulmonary valve endocarditis in 90 cases including IV drug users, hemodialysis and liver transplant patients (4).

A complete upper EUS examination should not only focus on the target organ, but also should include a systematic approach of the mediastinum, celiac axis, pancreas, biliary tract and liver. A meticulous examination may sometimes reveal abnormalities of the adjacent structures. For example, exploration of the mediastinum gives the opportunity to visualize the pulmonary artery and potentially detect pulmonary thrombosis (5).

This case of pulmonary valve vegetation diagnosed by EUS is the first recorded case. The patient was also diagnosed as gastric Non-Hodgkin Lymphoma by EUS-FNA. Both lesions could occur in immunocompromised IV drug abusers.

Few reports described pulmonary artery lesions by EUS discovered accidentally while performing complete examination for another indication. Mavrogenis et al reported a case with history of right-sided bronchial carcinoma suffering of acute non-alcoholic pancreatitis. EUS was performed to rule out a biliary origin. Mediastinum examination disclosed an intraluminal hypoechoic lesion of the right pulmonary artery, suggesting thrombosis. CT imaging was consistent with invasion of the right pulmonary artery by the bronchial cancer (5). EUS exam should not be limited to a single area but should also include systematic and detailed examination. Pulmonary artery is routinely visualized during examination of the subcarinal area(area 7) between it and the left atrium and aorto-pulmonary window(area 5) between it and the aorta (6). So, exhaustive and accurate identification of the pulmonary artery should be a part of examination of the mediastinum.

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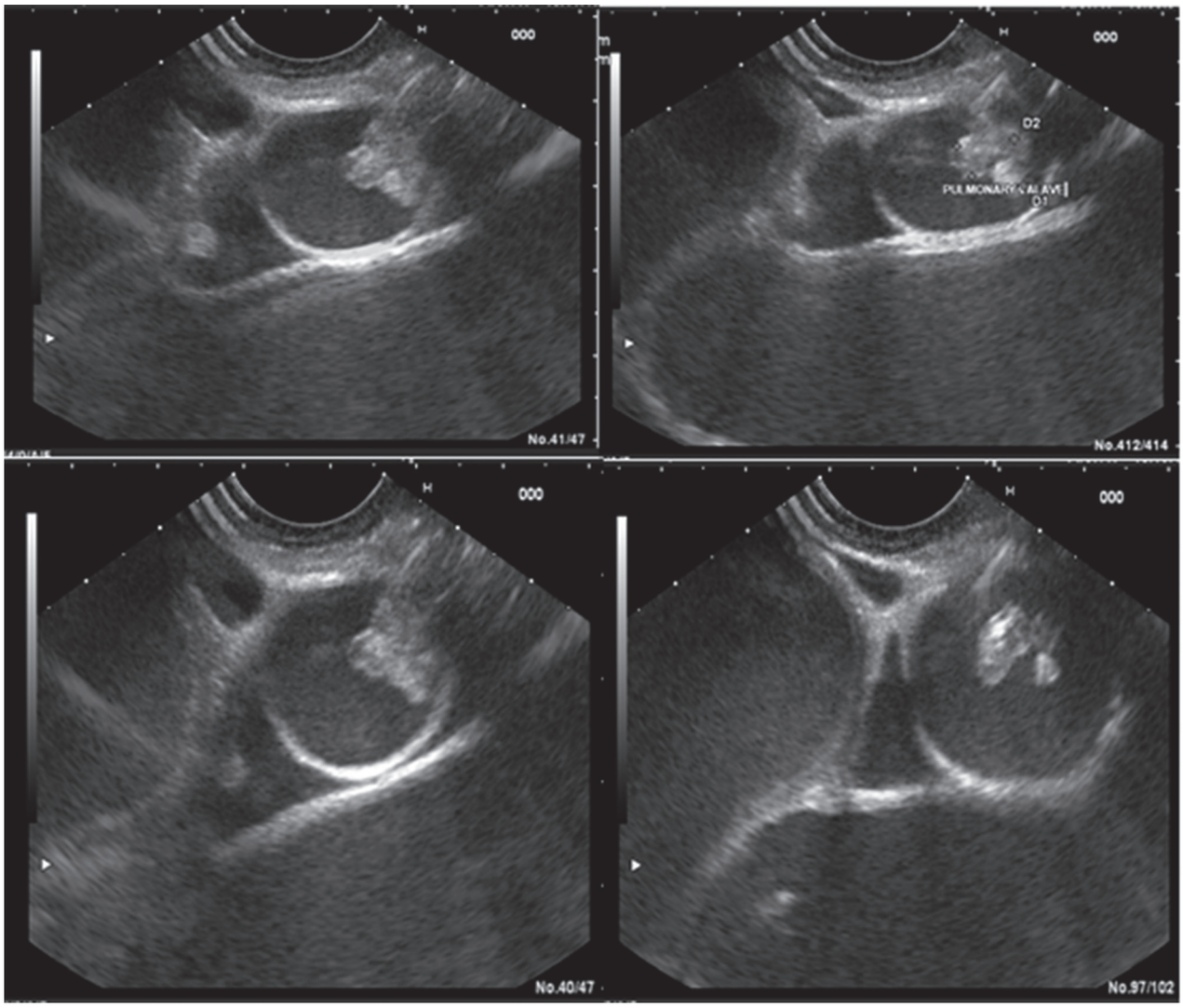

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