A Case of a Retrocardiac Mass

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Vascular aneurysms are more common in arteries than veins. Aneurysms of the inferior vena cava (IVCA) are rare entities of uncertain etiology, which pose diagnostic and therapeutic challenges when encountered. Based on a systematic search of all published reports in the English literature, and to the best of our knowledge, no other case reports or reviews of IVCA have been published in the past years [1].

Often associated with venous anomalies and thrombosis, IVCA are said to cause significant morbidity and mortality. Evidence-based guidelines for the diagnosis and management of IVCA is lacking.

IVCA are rare compared to arterial aneurysm. Primary venous aneurysms were not discussed in textbooks until 1962. The first case of IVCA was reported in 1972.

The normal IVC ranges from 1.5 to 3.7 cm in diameter. IVCA may be saccular, fusiform, or diverticular.

According to Gradman and Steinburg [1], IVCA are classified generally as follows [2-4]:

- Stage I: Suprahepatic IVCA without venous obstruction (as in our patient)
- Stage II: Supra or infrahepatic IVCA associated with venous obstruction
- Stage III: Infrarenal IVCA without associated venous anomaly
- Stage IV: Other

Most of these IVCA are idiopathic. Some are congenital, while others are caused by trauma or arteriovenous fistulae [1]. The suprahepatic variety of aneurysms are usually incidentally found on imaging as a rounded mass in the lower mediastinum [2], just behind the heart.

Usually patients are asymptomatic, but occasionally an aneurysm may be the site of a thrombus formation. This placement can lead to an IVCA syndrome, manifested by severe lower extremity edema, pathogenesis being much like that of the superior vena cava syndrome of the neck and upper extremities. When the thrombus get dislodged, a pulmonary embolism can result [3].

PATIENT DESCRIPTION

A 63 year old female presented to the emergency department with right lower abdominal pain. Physical examination of the patient showed no marked abnormality except moderate pain in the right lower abdominal quadrant at mild palpation. Measurements of electrolyte, serum creatinine, blood urea nitrogen, direct and indirect bilirubin, and amylase levels were within normal limits. She underwent a computed tomography (CT) scan. Scans were obtained using a Somatom Definition Flash (Siemens Healthineers, Germany) in the arterial and venous phases. Axial images revealed a large saccular aneurysm 4.4 cm in diameter, originating from the IVC at the lower mediastinum to the right of the midline, just behind the heart (posterior cardiophrenic angle).

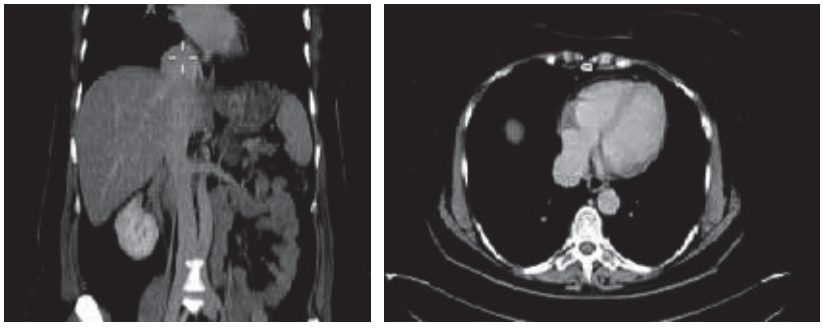
This lesion was an isolated aneurysm of the suprahepatic inferior vena cava, which is rare. Surgical treatment is necessary in symptomatic cases. If this kind of aneurysm is asymptomatic, it can be managed with serial sonographic examinations.

In the years since the diagnosis, our patient has remained asymptomatic. She resides in a nursing home and remains quite functional.

COMMENT

Bronchogenic cysts are congenital cysts of tracheobronchial origin, with or without an anatomical connection with the tracheobronchial tree. They are filled with fibromuscular walls and may be located in the lower mediastinum behind the heart. A

Figure 1. Coronal reconstruction and axial plane of enhanced abdominal computed tomography scan. A large saccular aneurysm 4.4 cm in diameter, originating from the inferior vena cava at the lower mediastinum to the right of the midline, just behind the heart



hiatal hernia would likely be in the lower mediastinum in the paracardiac or retrocardiac regions.

Pericardial cysts are congenital, thin-walled cysts, which may be round or oval, and are sharply demarcated. They are most commonly located at the right cardiophrenic angle but may be seen in the retrocardiac area as well.

Tumors of the mediastinum may be primary (i.e., neurogenic tumors or lymphoma) or metastatic. Depending on the cell type, they four may be located in different regions of the mediastinum, including the retrocardiac area.

However, none of the above mentioned alternative diagnoses would demonstrate smooth and uniform pickup of intravenous contrast material on a CT scan and during magnetic resonance imaging. In our case, the diagnosis of IVCA was largely based on the location of the mass and the fact that there was uniform pickup of contrast material in the venous phase of the scans.

CONCLUSIONS

Despite being rare, IVCA should be considered in patients with retrocardiac mass. It can be easily diagnosed by non-invasive cross-sectional imaging methods such as ultrasound and multi-slice computed tomography.

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Capsule

Association between serum concentration of 25-hydroxyvitamin D and community-acquired pneumonia

Community-acquired pneumonia (CAP) is a common disease with significant morbidity and mortality. There is evidence that vitamin D deficiency can be associated with infectious diseases. The aim of this study was to compare the levels of vitamin D between patients with CAP and healthy controls. In a case-control study on 73 patients with CAP and 76 healthy controls, the serum concentration of 25-hydroxyvitamin D (25[OH]D) was measured. Severity and outcomes of disease and also duration of hospital stay were compared in patients with different levels of 25(OH)D. The severity of CAP was assessed using the CURB-65 score (confusion, uremia, respiratory rate, low blood pressure, age ≥ 65 years) and was also reflected by the length of hospital stay, admission to intensive care unit (ICU), and 30-day mortality. In total, 81.2% of the study population had vitamin D levels ‹ 30 ng/dl. The risk of pneumonia among subjects with deficient vitamin D levels was 3.69 (95% confidence interval 1.46, 9.31) times of those with sufficient vitamin D level (P = 0.006). Prevalence of severe deficiency of vitamin D in scores three and four of CURB-65 (59.38%), was far more than scores one and two (31.71%). Also, results indicated patients with severe deficiency had a higher risk for admission to the intensive care unit, 30 day mortality, and longer hospitalization stay, but these were not statistically significant**. Mamani** et al. concluded that a low level of 25(OH)D is associated with a higher incidence of CAP and more severe disease. It is recommended to pay more attention to vitamin D deficiency in infectious diseases, particularly in CAP patients.

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Capsule

Herpes zoster as a risk factor for incident giant cell arteritis

Histopathologic studies have implicated herpes zoster (HZ) as a causative organism of giant cell arteritis (GCA). The purpose of this study by **England** and co-authors was to assess the epidemiologic association of HZ events with incident GCA. Among 16,686,345 subjects, a total of 5942 GCA cases occurred, with 3.1% (MarketScan) and 6.0% (Medicare) having preceding HZ events. Unadjusted GCA incidence rates were highest in the groups with complicated and uncomplicated HZ. After multivariable adjustment, complicated HZ was associated with an increased risk of GCA (hazard ratio [HR] 1.99 [95% confidence interval (95%CI) 1.32–3.02] in the Medicare cohort and 2.16 [95%CI 1.46–3.18] in the MarketScan cohort), as was uncomplicated HZ (HR 1.42 [95%CI 1.02–1.99] and HR 1.45 [95%CI 1.05–2.01] in the respective cohorts). Vaccination and antiviral treatment were not consistently associated with GCA risk, although antiviral treatment was marginally associated with a decreased risk of GCA in the Medicare cohort (HR 0.67 [95%CI 0.46–0.99]).

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