Ectopic hepatocellular carcinoma in the adrenal gland with inferior vena cava thrombosis and right atrial extension.

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April 28, 2020

Abstract

no need abstract

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Filippos-Paschalis R et al[1] described a very interesting and unique case of ectopic hepatocellular carcinoma (HCC) in the adrenal gland with inferior vena cava thrombosis and right atrial extension. The patient developed respiratory failure and required an urgent operation. The right adrenal gland was removed through the abdominal approach, but cardiopulmonary bypass (CBP) was needed in removing the right atrium extension. The ascending aorta, superior vena cava, and the right femoral vein were cannulated for arterial and venous access, respectively. They achieved systemic hypothermia (25^0 C), and antegrade cold cardioplegia was administered. The aorta was cross-clamped, and another vascular clamp was placed between the left common carotid artery and left subclavian artery. The adrenal gland, the right atrium tumor, and IVC tumor thrombus were removed successfully. During the placement of the venous cannulas, the authors were very careful to avoid dislodging the tumor thrombus. The surgery was meticulously planned, and the patient had an uneventful post-operative course.

Ectopic hepatocellular carcinoma in the adrenal gland is a very rare tumor, but all adrenal tumors can extend into the IVC and even into the right atrium.[2,3] Of note, renal cell carcinoma (RCC) can have the same behavior of vascular extension into the IVC and right atrium.[4] Once these tumors extend into the IVC and go into the chest, hepatic veins can be obstructed, causing Budd-Chiari syndrome (BCS).[5] Figure 1 showed that hepatic veins and IVC were dilated and obstructed; thus, the patient probably had BCS in this situation. Under such condition, the use of CPB is a must in order to remove the tumor from the hepatic vein and to avoid liver congestion. Also, the patient presented to the emergency department with signs and symptoms of pulmonary emboli (PE). Some of these patients can present with PE, which is a tumor thrombus that embolizes into the pulmonary arteries. In some cases the PEs also need to be removed if it is safe for the patient.[6]

The use of CPB is indicated in cases like the one described by Filippos-Paschalis et al.[1] The tumor was probably too bulky to be removed without the use of CBP; otherwise, the risk of ... developing with the use of CBP may be unacceptably high. There are select cases of RCC and adrenal HCC with tumor thrombus extension which can be removed safely from the right atrium and IVC without the use of CPB.[2,7,8] It is important to remember that these tumors do not cause thrombosis of the IVC, as the tumor thrombus (different from thrombosis) extends into the IVC. Tumor thrombus can cause blood thrombosis below its location,[9] making it difficult to be able to place a cannula in the femoral veins.

These complex extreme surgeries usually require a multidisciplinary team or a transplant surgeon who specializes in approaching these types of cases.

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