

Amorphous cardiac calcified tumor in the early stages of pregnancy

Abstract

A rare neoplastic cardiac mass known as a calcified amorphous tumor (CAT) can cause symptoms similar to those of cancer. We described a 4-month-old male infant with repeated cyanosis attacks and a heart murmur in this report. An uncircumcised tumoral mass adhering to the interstitial septum and the inferior vena cava was found on echocardiography in the right atrium. Cardiovascular investigation was completed to extract the cancer. A histopathological examination revealed the presence of foreign body-type giant cell reactions and thrombus-like tissue with extensive calcification. The patient's hospital stay was uneventful following the operation. In spite of the fact that Feline is primarily analyzed in grown-up patients, it ought to be viewed as in the reasons for heart mass in the neonatal period.

Keywords: Neoplastic • Calcified amorphous tumor • Interstitial septum • Cardiovascular • Histopathological

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Introduction

A rare non neoplastic cardiac mass known as a Calcified Amorphous Tumor (CAT) has symptoms similar to those of cancer or vegetation. These calcified areas can result in emboli and obstruction, the cause of CAT has not yet been determined. Chronic inflammation cells, calcium deposits, hyalinization, and the absence of blood elements are histological characteristics of cardiac CAT. According to us, CAT is an intra cavitory cardiac mass that is based on the endocardium and is made up of calcium deposits in the form of nodules in the context of chronic inflammation and surrounded by amorphous fibrous material. CAT has a good clinical course. Although its pathogenesis is unknown, some authors have hypothesized that mural thrombi may be its source. Histopathological examination and surgical resection are required for CAT diagnosis. Adult patients account for nearly all CAT diagnoses. Newborn cardiac CAT is extremely uncommon [1].

A case study

With a weight of 1020 g and a C/S at 28 weeks due to placental abruption, the patient was admitted to the neonatal intensive care unit (NICU) with respiratory distress. For IV access and TPN, umbilical catheterization was performed. Negative cultures of the blood and urine were obtained. The high risk of infection

at the umbilical catheter's location necessitated its removal. After being in the hospital for three months, the infant was released. The infant developed cyanotic attacks and a murmur two weeks after discharge. The infant was referred to the children's medical center for further cardiac evaluation after the physical examination revealed a cardiac murmur and an echocardiogram revealed a cardiac mass. On readmission, the patient weighed 2000 g and had normal pulses in both of her carotid arteries and all of her extremities. He had mild dyspnea and a respiratory rate of 45 breaths per minute. The ambient air's transcutaneous oxygen saturation was 95%. Hepatomegaly and splenomegaly were not observed. His mean arterial pressure was 67 mm Hg, and his left arm's arterial pressure was 87/56 mm Hg. The electrocardiogram did not reveal any abnormalities. A chest X-ray revealed cardiomegaly with normal pulmonary vascular markings and a cardiothoracic ratio of 0.8 (normal value: 0.60) metabolic acidosis (pH 7.29) and bilirubinemia (3.43 to 6.68 mg/dL) without direct hyper bilirubinemia were found in the laboratory [2, 3].

The typical median sternotomy was carried out. The tumor was removed through a right atriotomy after an intracorporeal circulation circuit was stopped. PDA was ligated as well. The removed calcified mass had multiple attachment sites to the right atrial wall and septum and

extended into the Inferior Vena Cava (IVC). Its size was approximately 2.6 cm [4, 5].

A thrombus like mass of eosinophilic amorphous fibrinous material and numerous calcified areas were discovered during histo pathological examination. Focus on neutrophils and cell debris was observed. Giant cell reactions and collections of cells resembling histiocytes with merging eosinophilic cytoplasm of foreign bodies were also observed. At the periphery, dense fibroblastic cells surrounded a delicate capillary network. No “myxomatous” tissue foci were observed in any of the multiple sections. The clinical signs and histo pathological findings supported the diagnosis of cardiac Calcified Amorphous Tumor (cardiac CAT). The patient spent no time in the hospital after surgery. During the eight month follow up period, the patient had not experienced any complications. During the follow up, the patient has been doing well [6, 7].

Discussion

Although nonneoplastic cardiac masses like intramural thrombi or vegetation can mimic the characteristics of neoplastic disorders, primary heart tumors like atrial myxomas are uncommon. Excision of cardiac lesions may be necessary regardless of the type of masses because of the potential for embolization or obstruction and the significance of accurate diagnosis and treatment. CAT was first introduced in 1997 and was defined as the deposition of calcium on an amorphous fibrous stroma with an inflammatory background and blood element degeneration. At first it was viewed as a calcified blood clot, however at that point it was perceived as an intriguing essential cancer with a harmless nature. Organizational thrombus and CAT are distinguished by lamination and the presence of hemosiderin. The size of the CAT varies from person to person, and it can invade any part of the cardiac chambers, with the left atrium being the least affected. Sessile growth lesions account for the vast majority of CAT cases, but pedunculated lesions are also uncommon. There have also been reports of calcification persisting at the origin site after complete removal and relapse following incomplete surgical removal [8, 9].

Dyspnea, syncope, and embolism-related symptoms are the primary unspecific presentations of cardiac CAT, just like those of other cardiac masses. These CAT symptoms can also be found in vegetation, thrombi, emboli, and

other cardiac tumors. Histologically, CAT cases have been mistaken for rhabdomyosarcomas, calcified myxomas, tumoral calcinosis, or calcified tuberculomas. For exact conclusion of Feline out of its various differentials analyze, clinical, histological, and imaging discoveries must be thought about by and large. The cardiac CAT pathogenesis is still poorly understood. A correlation between the presence of thrombosis-predisposing factors and cardiac CAT has been found in some studies to support the idea that cardiac CAT is an organized and calcified mural thrombus. A few different creators have conjectured that unusual calcium-phosphorus digestion as in hemodialysis or Alport disorder patients has been associated with the advancement of cardiovascular Feline. Cardiac CAT has also been used to diagnose collagen vascular diseases and abnormal coagulation profiles. Now and again, the presence of against dsDNA antibodies, anticardiolipin antibodies, and lacks of protein S and protein C have been accounted for. However, cardiac CAT’s definitive pathogenesis is still unknown. Because there was no evidence of perinatal cardiovascular abnormality, it was not possible to evaluate thrombosis as a possible source of the tumor in our patient. In order to determine the precise location of the tumor, additional research is required to evaluate the perinatal period of cardiac CAT patients [10, 11].

Conclusion

Because there was no evidence of a perinatal cardiovascular abnormality in our patient, it was not possible to evaluate thrombosis as a possible source of the tumor. Our patient had normal coagulation factors, autoantibodies, and kidney function, among other suggested factors. Consequently, future examinations are required for assessment of the perinatal time of patients experiencing heart Feline to distinguish the specific beginning of the growth.

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