

The Incidental Finding of the Senile Isolated Massive Tracheobronchial Calcification After Cardiac Surgery: An Unusual Case Report

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Abstract- Tracheobronchial calcification is a benign radiological finding seen in middle-aged and elderly females, usually of no clinical significance. We report a female with massive tracheobronchial calcification that is found incidentally after cardiac surgery.

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Introduction

The extra-skeletal sedimentation of calcium is well-defined as a complication of some diseases (1).

Many studies revealed that tracheobronchial calcification may occur in patients with long-term use of Warfarin (2,3), patients with end-stage renal disease (4), and tracheopathia osteochondroplastica (5).

Herein, we reported an unusual case of massive tracheobronchial calcification, which was diagnosed after cardiac surgery.

Case Report

A 67-year-old female was referred to the emergency department with the chief complaint of typical chest pain, lightheadedness, and a history of syncope before admission. Physical examinations were insignificant except for cardiac auscultation (S3) sound in the left sternal border and irregular heart rhythms. Electrocardiography demonstrated delayed conduction patterns in anteroseptal, and inferior leads accompanied by premature atrial contracture in ECG trace. Also, the QTc interval was prolonged (QTc=509 milli-sec).

Cardiac biomarkers showed a remarkable increase in troponin-I (4.48 ng/dl) and CK-MB (15 IU/l).

Regarding these findings, the patient with a definite diagnosis of non-ST elevation myocardial infarction (NSTEMI) was transferred to the catheterization laboratory for probable cardiac revascularization. Emergent coronary angiography showed a significant diffuse lesion at the proximal to mid-portion of LAD. Also, in LCX and RCA, we found substantial diffuse lesions at the proximal portions.

After an emergent cardiac surgeon consultation, coronary artery bypass graft (CABG) surgery was scheduled. The patient underwent off-pump CABG, and after anastomosis of LIMA to LAD, SVG to LCX, and RCA, she was transferred to cardiac surgery ICU.

After stabilization of hemodynamic parameters, the portable chest X-ray was done. In the antro-posterior view of cardio-thoracic radiography, we found massive, isolated calcification of the trachea-bronchial tree (Figure 1).

With this finding, the serum calcium (Calcium=8.9 mg/dl) and phosphorus (3.6 mg/dl) were checked, and the results were in normal ranges. Also, the thyroid tests (TSH=4.66 mIU/L, Total T3 level=174 ng/dl, free

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T4=1.4 ng/dl) had normal levels. Based on the previous reports, we investigated the probability of the use of Warfarin, but she did not have any history of this medication use.

According to the normal physiological and para-clinical findings related to the first presentation, he was transferred to the post-cardiac surgery ICU. After five days of the admission, she was discharged with favorable outcomes.

We recommended that she be referred to the respiratory clinic to follow up on the tracheobronchial situation with probable bronchoscopic evaluation to find the cause of this presentation.

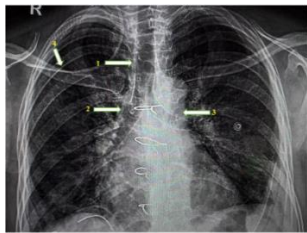


Figure 1. Chest X-ray shows calcification of the trachea (1), the right (2), and the left (3) of the main bronchial tree. Also, the malposition of the central venous catheter in the right internal jugular vein where it entered into the subclavian artery was seen (4)

Discussion

Tracheal calcification may occur in all patients, especially after 40 years old, without clinical importance (1). On the other hand, many studies note that this phenomenon is seen in patients with prolonged use of Warfarin, all stages of kidney injury, and even in pregnancy (4,6,7).

It is worth mentioning that idiopathic tracheobronchial cartilage calcification is a rare finding in patients, and due to its non-malignant nature and asymptomatic presentation, it may be neglected (1).

Although some evidence noted that the patients with laryngeal, Bronchial, or tracheal calcification might be presented as related symptoms such as persistent cough, hemoptysis, stridor, and other pathological findings secondary to this disease (2,4), the unique feature of our patient is that she was presented with unusual symptoms related to the tracheal, bronchial, or even laryngeal calcification.

Besides age-related changes that result in tracheal calcification, Warfarin sodium-induced tracheal calcification, hyperparathyroidism, amyloidosis, and tracheobronchopathia osteochondroplastica should be considered in differential diagnosis (8,9).

We recommended at discharge that the patient be referred to the respiratory clinic for more investigation related to the tracheobronchial calcification.

We aim to notice that some situations may cause tracheobronchial calcification, especially in elderly women patients. Meanwhile, clinicians can detect only radiological findings without severe pulmonary symptoms. So, the patient's medical history can be crucial to finding the cause.

The finding of the cause of the tracheobronchial calcification to determine the criticized treatment approach, if needed, or prevent other complications even without symptomatic presentation, is indispensable.

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