

Case Report,

A giant mediastinal coelomic cyst resected by uni-portal VATS

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Abstract:

mediastinal Coelomic cysts are rare cysts of mesothelial origin. They represent 4 to 11% of all mediastinal tumors. It affects both men and women. The diagnosis is often made in adulthood. They are often asymptomatic

We report the rare case of mesothelial cyst of mediastinum. A 38-year-old woman with no medical history, she was referred to our department after chest X-ray showed a giant anterior mediastinum. The lesion was resected by VATS, which revealed a mediastinal cystic that extends from the top of the anterior mediastinum to the diaphragm.

On histological section, the cystic wall is seat of a significant inflammatory, lined by a flattened epithelial lining of mesothelial type, conclusive to mediastinal pleural mesothelial cyst.

The prognosis is excellent in the short and long term.

Key words: coelomic cyst, mediastinum, VATS, histology

Introduction:-

Mediastinal cysts are a rare but important entity accounting for 12-30% of all mediastinal masses(1). They form a heterogeneous group of benign lesions of essentially congenital origin.

It affects both men and women. The diagnosis is often made in adulthood, the average of which varied according to the studies between 36 and 45 years. They are often asymptomatic. Their diagnosis as well as the follow-up have benefited from the progress of chest imaging especially chest CT, but the confirmation remains histological.

They are classified into 5 types according to their structure: Bronchogenic cyst which represents 50 to 60% (2)of mediastinal cysts, mesothelial cysts around 30%(2), Benign hemangiomas, Cystic lymphangiomas, Meningeal cysts.

Observation :

We report a case of a 38-year-old feminine patient with no particular pathological history,

except intermittent dry cough and 7-year-old dyspnea stage I mMRC, for which the patient has already had a chest X-ray (Figure 1) and direct contact with her dog, which she has been raising for 10 years.

The history of her disease goes back to 3 months before her hospitalization, marked by the progressive worsening of her dyspnea of effort becoming stage II mMRC with invalidating dry cough worsening in lateral decubitus, without appearance of chest pain, bronchial syndrome, hemoptysis, hydatidoptysis neither clinical signs, all evolving in a context of apyrexia and conservation of the general condition.

Her somatic examination finds a patient stable hemodynamically and respiratory, with decreased vesicular murmurs at the right lateral thoracic and deviation of cardiac murmurs to the left, without other abnormalities. The chest radiograph of admission reveals a manifest aggravation (Figure 2).



Figure 1: The first chest X-ray, taken 7 years ago, shows a right paratracheal opacity dense homogeneous fusiform, of mediastinal origin without other abnormalities



Figure 2: The second chest X-ray, taken the first day of her hospitalization, reveals a manifest aggravation of the mediastinal opacity without another abnormalities.

Chest CT (Figure 3.a) shows a large right anterior mediastinal pulmonary cystic mass extending practically from the apex to the diaphragmatic dome, pure liquid of equivalent density –water with thin walls not raised after injection without partition or parietal calcifications. This mass measures 17 *10 *14 cm. It has a mediastinal

extension under carinary and pretracheal and is insinuated between the bronchovascular axes with controlateral displacement of the superior vena cava and moved behind the pulmonary artery the stem bronchus and the right atrium. Pulmonary parenchyma (Figure 3.b) is also normal without suspicious nodule images or other abnormalities.



Figure3: transverse section of Chest CT showing a large right anterior mediastinal pulmonary cystic mass extending practically from the apex to the diaphragmatic dome, pure liquid of equivalent density –water with thin walls not raised after injection without partition or parietal calcifications very compressive and without lymphadenopathy (a) Pulmonary narenchvma (Figure 3 b) is normal without suspicious nodule images or other abnormalities

The hydatid serology was negative. Her hemogram was normal. The bronchoscopy does not show hydatid membranes or other abnormalities. The search for scolex in bronchial aspiration was negative.

To better visualize the vascular rapport with this mass, as well as with the pericardium, a thoracic

MRI is done (Figure 4) and shows that the superior vena cava is pushed forward as well as the supra-aortic cavities. The pericardium appears normal.

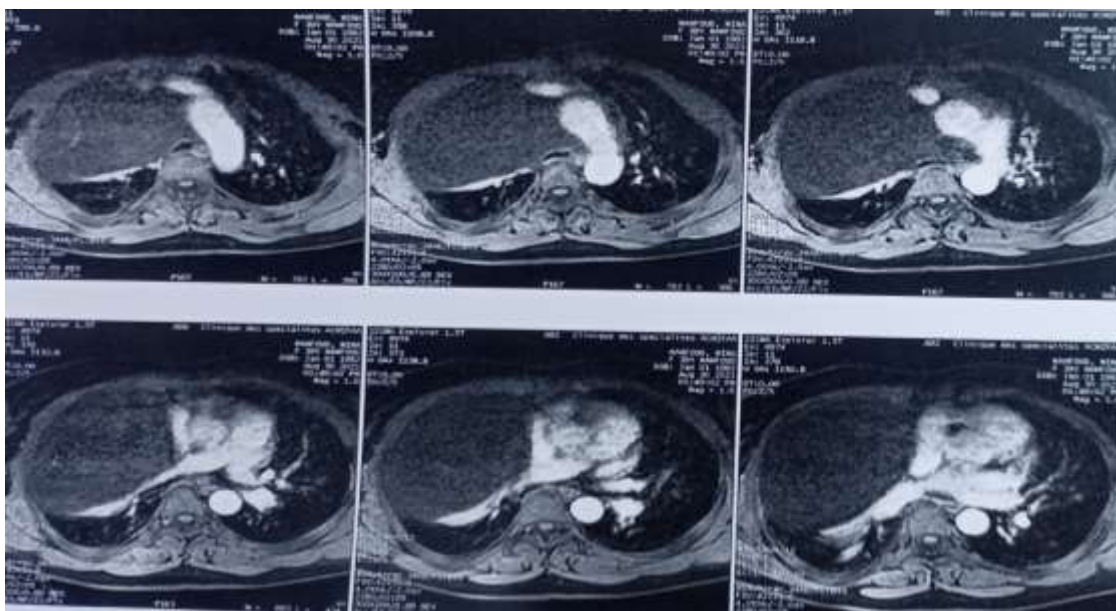


Figure 4 : Thoracic MRI shows that the superior vena cava is pushed forward as well as the supra-aortic cavities. The pericardium appears normal.

After a normal operability assessment; the patient benefits from a complete excision under uni portal VATS. The cystic mass extends from the top of the anterior mediastinum to the diaphragm.

Due to the volume of the mass and its close rapport with the elements of the mediastinum, the surgeon punctured the mass after protection by the physiological saline, which pull out a serous fluid not purulent. The mass was emptied then completely removed.

The gesture was supplemented by microbiological examination that was sterile. The macroscopy,

shows an adipose fibrous cystic formation without endo or exo-cystic vegetations.

On histological section, after standard staining (Figure 5), the cystic wall is seat of a significant inflammatory infiltrate, fibrous and congestive(a), lined by a flattened epithelial lining of mesothelial type (b) conclusive to mediastinal pleural mesothelial cyst.

The prognosis is good, marked by the disappearance of dyspnea and dry cough, and a pulmonary reexpansion without recurrence (Figure 6).

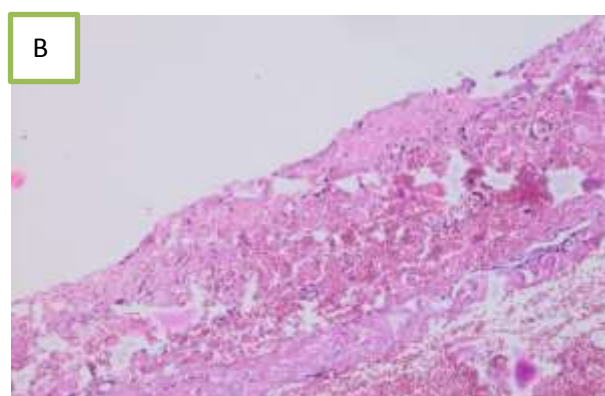
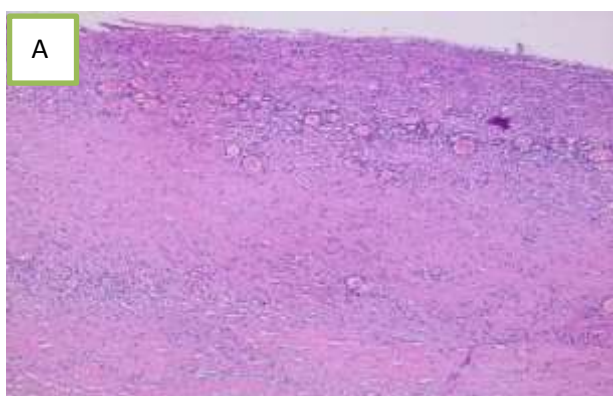


Figure 5: Histological section of the cyst wall, after standard staining, showing a significant inflammatory infiltrate, fibrous and congestive(a), lined by a flattened epithelial lining of mesothelial type (b) conclusive to mediastinal pleural mesothelial cyst.



Figure 6: Pulmonary reexpansion

Discussion:-

Coelomic cysts are remain rare and represent 4 to 11% of all mediastinal tumors(3) and 22 à 38 % of mediastinal cysts (4). They are distinguished by 3 subtypes; pleuro-pericardial cyst are most common, pericardial diverticula, pleural mesothelial cyst.

The origin of these cysts is embryological(5) takes place towards the end of the 4th week of embryological life where the mesoblast is divided into 3 blocks between which are formed the coelomic cavities which will be at the origin of the pericardial peritoneal and pleural cavities(2).

It is the lack of closure of the coelomic cavity that results in a fluid pocket identical to the pericardial sac, whose surface is lined with mesothelial cells, having almost constant contact with the pericardium. If this pericardial link is reduced to a fibrous tract, it is called a pleuropéricardic cyst. If the cyst communicates freely with the pericardial cavity through a channel then it is referred to as pericardial diverticulum. If the embryological abnormality only concerns the future pleural tissue it results in a simple pleural cyst.

The clinical presentation is hardly specific and depends on the volume and location of the cyst(5). Schematically the symptoms are related to irritation, compression, invasion of one or more intramediastinal organs, which can group them by syndromes.

Respiratory syndrome made of chest pain pseudo-anginal rebellious to the usual treatment, cough most often dry and can be hacking or productive, dyspnea secondary to compression or invasion of

the trachea or stem bronchi most often inspiratory, and rarely hemoptysis secondary to compression of the vena cava superior or repetitive respiratory infections. Exceptionally a vascular syndrome such as upper or lower cave syndrome, pericarditis or tamponade(6). Dysphagia can be present by compression of the esophagus, intermittent or permanent, selective first to solids and then to liquids. CHEST X-ray allows to specify the topography of the cysts, their size, as well as its rapports and to make a first evaluation of its possible compressive impact thanks to the well codified semiological elements; however the diagnosis is affirmed by chest CT which is currently the best means with excellent sensitivity(5). It highlights a thin-walled cystic formation, often with unilocular fluid content. Mainly in Cardio-phrenic angle 70- 80% with pericardial contact(5). Apart from this usual site other locations are possible (7)but rarer and define ectopic coelomic cysts In particular Peritracheobronchial,thymic compartment,Barety lodge,left hilum, intertracheobronchial,cardiophrenic angles post. In ectopic locations that are increasing due to CT detection from 25% to 40% depending on the series(5). Imaging does not allow formal diagnosis. Histological confirmation of the cyst is required(6).

Cystic complications like bleeding, rupture, infections have also been reported(5). For treatment the goal is to correct the symptoms and avoid complications. According to the indications, the choice is mixed between either therapeutic

abstention, minimally invasive surgery represented by VATS, or open thoracotomy(8). Unlike all other thoracic cysts, follow-up alone is justified for these small cysts of usual topography especially in patients with comorbidities factors placing them at high risk of perioperative mortality(2). The surgery remains reserved for symptomatic forms, or in case of a doubt diagnosis, the unusual topography or the atypical scannographic aspect, some authors indicate the resection in case of sports practices causing fear of a risk of rupture. Thanks to the minimally invasive surgery and anatomical characteristics of these cysts the perioperative morbimortality remains low(8).

Conclusion:-

The coelomic cyst is a malformative, rare and benign pathology,. Its diagnosis is affirmed by the CT scan . The only curative treatment is the complete excision, but the surgical indications are well codified. Thanks to minimally invasive surgery like VATS in our observation, the morbimortality remains low.

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