Haematic polyserositis

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Abstract

We present a case of a 62 years old male patient, a retired dockworker with a two clinical course of haematic serosal effusion (pleural, pericardial and peritoneal). The effusions which did not re-occur after drainage had 70 to 80% of mesothelial cells. Peritoneal effusion was collected in cystic cavities. The hypothesis of cystic mesothelioma, supported by the inexistence of malignant mesothelial cells in the peritoneum, seems the most likely.

Keywords: haematic serosity, peritoneal mesothelioma, cystic mesothelioma.

Introduction

Mesothelioma is a rare primary tumor of the serous cavities lining cells, with histogenesis in the mesothelial cells (celomic origin). Its appearance is related with exposure to asbestos with a latency period from 20 to 47 years. The prognosis is usually reserved (4 to 12 months for the malignant mesothelioma), conferring a substantial morbidity to the patient due to the growth and invasion of tumors and it is invariably fatal.[1,2]

Our aim with this work is to present a very rare form of mesothelioma with longer survival rates and excellent response to the implemented therapeutic, and this is an aspect seldom described the literature.

Case report

62 years old male patient, retired dockworker, healthy until February 1992, moment when he has the onset of a clinical condition including precordial pain, palpitations and direct dyspnoea triggered by physical effort, without any other symptomatology of the cardiorespiratory forum. Objectively he had axillary temperature of 37.5°C, pericardial atritum, vocal vibrations reduced, dullness and lack of vesicular murmur in both the pulmonary basis without any other changes in the physical exam. The investigation performed then, as an inpatient (ECG, echocardiogram, plain Thorax X-ray, thoracocentesis and pericardiocentesis), led to the diagnosis of haematic pericardial and pleural effusions, and the cytologic exam reveals 44% of mesothelioma cells, 33% of immature lymphocytes and 23% of polymorphonuclear, from which 70% were eosinophils. The biochemical exam revealed that this is a very high LDH exudate (21.700 U/l) and increased ADA (1 80U/l). The liquids were sterile. The patient presented also an increase on the erythrocyte sedimentation rate (80mm on the first hour), and eosinophilia (1474/mm3). The subsequent laboratorial investigation, including endoscopy, ultrasound and histologic enabled the diagnosis of hepatic cirrhosis of probable ethylic etiology with esophageal varices Grade I-II. Both the myelogram as the bone biopsy revealed an increase of eosinophils without any other changes.

The patient was discharged 3 months later with the diagnosis of idiopathic haematic polyserositis and liver cirrhosis of likely alcohol etiology with portal hypertension. He had lost about 30 kg (120 kg – 90 kg), keeping, however, a relative good general health condition without any other constitutional symptom. Six months later, a condition of an increase on his abdominal volume resistance to the diuretic therapy initiated has started, reason why he was readmitted on the Medicine II Service of Hospital Santa Maria. In the objective exam, he presented an increase of the abdominal volume, central dullness to percussion with peripheral tympanic non-changeable, changing his position, irregular surface of the liver edge and cutting with around to 2 cm and cubital deviation of the last phalanx of his fingers with hypertrophy of the

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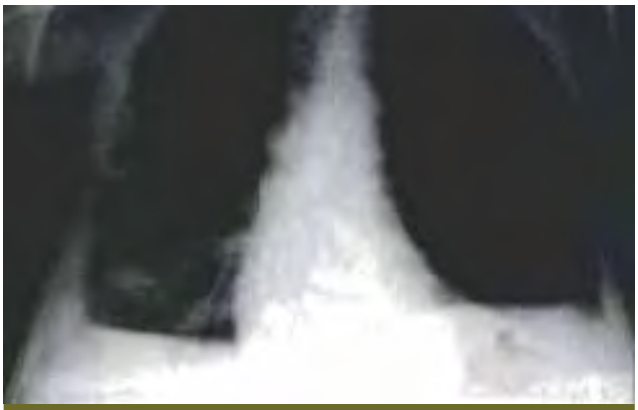
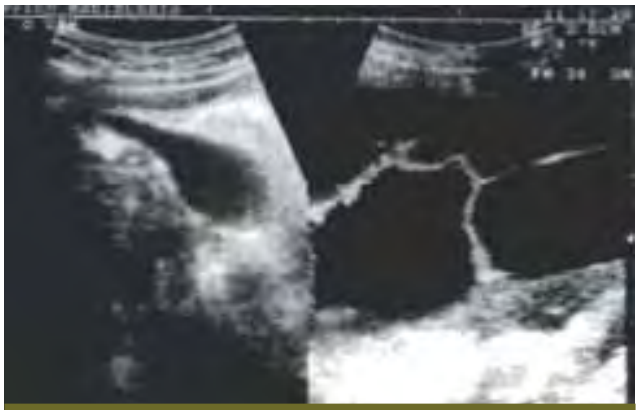


Plain postero anterior Thorax X-ray. Bilateral pleural effusion with pleural thickening.

FIG. 1



Abdominal ultrasound, revealing fluid collected in pseudocystic formations.

FIG. 2

last phalanx. As personal relevant background he had a diagnosis of epilepsy for several years, medicated with hidantina* 1 tablet/day, ethylic habits of 140 g alcohol/day and smoking habits of 40 smoking units and contact with insulating material (asbestos) for over 30 years (he was a dockworker at Lisbon Port and used to carry boxes with insulating material).

Laboratorial exams revealed a slight hypochromic microcytic anemia (Hb=11.5 g/dL, ESR= 74, MCV=29 pg, MCHC= 30 g%) with serum iron, transferrin, ferritin and iron total binding capacity without changes. There was no eosinophilia. In the hepatic tests it was seen a slight change on the gamma-GT (80 U/I) and alkaline phosphatase (105U/1) and the slight reduction on the VII factor (48%). The erythrocyte sedimentation rate was less increased (30 to 40 mm on the first hour), and the CRP was 8 g/dL. From the immunology study it is to be highlighted ANA, DNA antibodies, SSA and SSB, anti-histone, anticardiolipin, rheumatoid factor, LE Cells.

The biochemistry study of the evacuating paracentesis, from which 8000 cubic centimeters of haematic fluid was extracted, was similar to the previous but with around 80% of mesothelial cells, being negative bacterial exams. BK search in the sputum, gastric fluid, ascitic fluid and Mantoux test were negative, as well as the tumor markers (CEA, NSE, SCC, AFP) and the faeces parasitology test. Among viral hepatitis markers it is to be highlighted positive anti-Hbs, Hbc and Hbe, indicating a previous contact with the B virus.

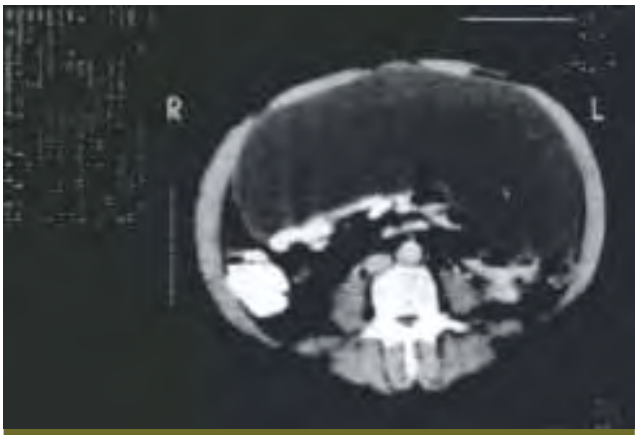
The thorax radiogram showed bilateral diffuse opacities pleural thickening, with the radiologic study revealing degenerative changes of hands and feet. The echocardiogram did not show any pericardial effusion. Abdominal ultrasound and CT scan have shown a huge collection of septate fluid near the anterior abdominal wall, in the virtual cavity and in between the greater omentum two lamina. The hepatic echostructure was suggestive of chronic liver disease and confirmed the pleural thickening and the inexistence of adenopathies or any other mass.

The diagnostic through peritoneoscopy was not feasible due to the existence of multiple adherences.

The condition of abdominal pain and fever (axillary temperature= 38 – 39ºC) with chills led to the diagnosis of bacterial peritonitis due to Streptococcus sanguinis resistant to medical therapy and leading to emergency surgery. Intrasurgically, it was verified a marked thickening both of the visceral as parietal peritoneum (1cm meter), forming multiple cystic cavities with haematic content from the anterior abdominal wall. The peritoneum histological test enabled to identify fragments of asbestos bodies, and no mesothelial cells with malignant aspect were demonstrated.

To the surgical procedure it corresponded a clinic and laboratorial improvement, with the patient being followed up in the Internal Medicine clinic, being asymptomatic for 3 years with a weight gain of around

*Equivalent to phenytoin



Abdominal CT revealing a huge quantity of liquid of haematic density collected between the peritoneal layers and peritoneum thickening in stria. Drainage of haematic fluid collected over 7000 cc.

FIG. 3

Laparotomy has revealed diffuse peritoneal thickening and formation of cystic cavities from the parietal peritoneum full of haematic liquid.

FIG. 4

10 kg, without anemia an a acute stage endpoints becoming negative.

Discussion

The mesothelioma is a rare primary tumor of the serous cavities lining cells, with histogenesis in the mesothelial cells (celomic origin).

It can happen in the pleura, pericardium or peritoneum, involving usually just one of the serous membranes and relates to asbestos with a latency period between 20 to 47 years.[1,2]

The criteria for diagnosing peritoneal mesothelioma were set up by Winslow and Taylor in 1960: clinical history, compatible macro- and microscopic features, as well as the tumor progressive growth culminating with the patients death.[2,3,12]

The cystic variety, showing itself as big polycystic masses, is an even rarer variable, with an evolution located between a benign (adenomatous tumor) and the peritoneum malignant mesothelioma. Its clinical course is featured by a long survival period (1 to 13 years in the published cases) with frequent recurrences alternating with intervals of months to years. Such fact, along with the appreciable dimensions the tumoral mass can reach, grant it a substantial morbidity.[2,9,11,14,15,16,18.]

The diagnosis, mainly clinical, is supported by the macroscopic aspects (cystic cavities with liquid, only or multiple, in the peritoneal surface or free in the peritoneal cavity) and microscopic (mesothelial cells of benign aspect and slight inflammatory infiltrate). Histochemical exams can also be performed with Periodic-Acid Schiff, Alsatian blue, Meyer mucicarmine and removal of hyaluronic acid by hyaluronidase.

However such methods are not specific as they can be positive for a number of other tumors.[2]

The immune-histochemistry methods to detect immunoperoxidase with monoclonal antibodies and to detect CEA are also very unspecific, reason why are seldom used.[13]

Electronic microscopy, revealing the peritoneum lining cells which prominent microvilli, several intracytoplasmic tonofilaments and desmosomes, combined with the absence of pinocytic vesicles, establishes the tumor mesothelial origin.[2,16]

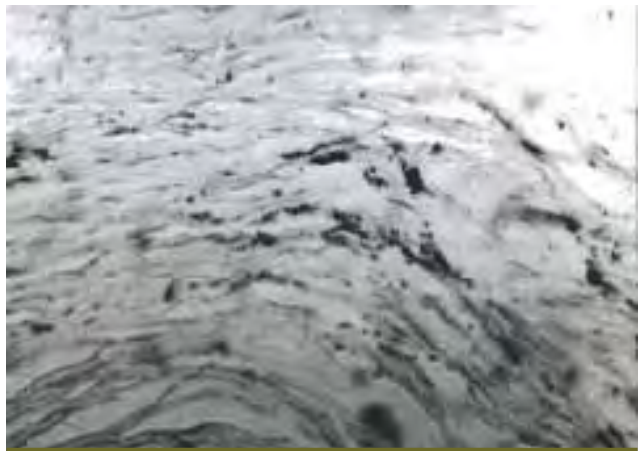
The cystic mesothelioma therapy consists in the surgical removal of the tumoural mass crucially to a relief of the symptoms, as such mass can reach sizeable dimensions.

Both radiotherapy as chemotherapy show disappointing results in most of the published studies.[2,4,5]

The case of a 62 years old male patient with a long history of professional contact with asbestos (30 years) with a condition evolving for 2 ½ years of haematic polyserositis with pericardial, pleural and peritoneal effusions not recovering after drainage, with around 80% of mesothelial cells, keeping the

Section of the parietal peritoneum with mesothelial cells, aspects within normal limits and hyalinised connective tissue with some inflammatory cells.

FIG. 5



Gomory stain for iron enabled to identify fragments of asbestosis bodies in the peritoneum corresponding to the color structures.

FIG. 6

patient always in good general condition without constitutional symptoms was presented. Imagiology tests confirmed a marked pleural and peritoneal thickening (visceral and parietal) with the formation of multiple intra-abdominal cystic cavities, confirming the histology of asbestos bodies in the peritoneum, without malignant mesothelial cells.

Before the clinical condition presented when admitted in the service, several diagnosis hypothesis were raised in increasing probability order and are: 1) a change in the clotting, 2) connectivitis or vasculitis 3) tuberculosis 4) causes of hypereosinophilia with parasitosis, lymphoproliferative diseases, solid tumors, 5) haematic effusions due to asbestos, 6) mesothelioma.

The hypothesis of being a clotting alteration of the hereditary coagulopathy type was unlikely, due to the non-existence of a family or personal history of hemorrhage in a patient in the seven decade of life, time when the first bleeding manifestations happened (pericardial, pleural and peritoneal effusions).

Besides, the quantification of clotting factors came to show the impossibility of such hypothesis.

An acquired coagulopathy associated to liver cirrhosis was also unlikely, as there was no clinical or laboratorial manifestations, also remaining to explain the cytological changes found in the pericardial, thorax and paracentesis fluids.

The hypothesis of connectivitis or vasculitis were also considered at a very early stage, because the patient showed changes in the joints in the hands and sterile haematic polyserositis condition, ESR and ADA increase.

However there were several factors that made the connectivitis hypothesis less likely, as the fact he was a male patient on the seven decade of life, having a distal articular commitment but above all there was no involvement of other organs (skin, kidney, nervous system) and in spite of the exuberant clinical manifestations, practically there were no laboratorial findings. The dosage of auto-antibodies was all this negative. Also both the biochemical and cytologic changes on the pericardial, thorax and paracentesis were not the most common in such diseases. The vasculitis hypothesis was still more unlikely, due to the almost non-existence of general symptoms, involving other organs (upper airways, skin, kidney) or any other laboratorial changes.

Regarding the tuberculosis hypothesis, in spite of the effusion being an asymptomatic haematic exudate with ADA increase, the clinical condition was not at all suggestive as it is not frequent the sterile bilateral pleural effusion with glucose levels within normal range being the increase on eosinophils and mesothelial cells strongly against it. Besides it was not possible to identify the BK in any of the organic fluids analyzed.

In the group of diseases causing hypereosinophilia,

the most frequent are parasitary, excluded both clinically as laboratorial. Peripheral blood eosinophilia can also follow other neoplasm diseases, e.g., lymphoproliferative diseases. The only datum favoring such hypothesis was the finding of immature lymphocytes in the pleural, pericardial and peritoneal fluids with an increase on ESR. What made such hypothesis so unlikely was the fact there was no commitment of any other organ or apparatus, as the nervous system or the skin, nor any manifestation of medullar aplasia, organomegaly or palpable adenopathies or identifiable through Imagiology tests. Both the myelogram as the bone biopsy were inconclusive. The hypothesis of a solid tumor (hepatocellular carcinoma or another one) was also unlikely, as the patient was keeping his good general condition without constitutional symptoms and the objective exam, tumor markers, ultrasound and body CT were elements against it.

The hypothesis of haematic effusion being related with asbestosis seemed likely at the beginning, as there was a favorable epidemiologic history (over 30 years of exposure to insulating material), due to the lack of significant symptoms of involvement of other organs, apparatus or systems (besides the effusions) and due to the fact of those effusions being haematic and hypereosinophilic.

However the patient did not have clinical evidence of asbestosis, diffuse interstitial pulmonary fibrosis disease, which is manifest by intolerance to effort, dyspnoea, dry coughing, symptoms progressing more or less rapidly (according to the intensity and duration of exposure), and which are followed by fatigue, anorexia, weight loss, arthralgia, general malaise and lastly cor pulmonale. Such condition was not seen in this patient who besides did not have either radiologic or physiological criteria of asbestosis (breathing functional tests showed an obstructive pattern not too restrictive, as it is essential to the diagnosis of asbestosis). He also did not have any evidence of cor pulmonale, as revealed by the ECG and echocardiogram.

Also, it is not described hypereosinophilia of this order in cases of asbestosis. The fact of having been isolated asbestosis in the pleural and peritoneal biopsies, as well as the existence of an evident pleural thickening in the plain thorax X-Ray showed only a previous exposure to asbestos.

So we are left as the most likely hypothesis, a benign mesothelioma, due to the long history of exposure to asbestos and excellent general condition without constitutional symptoms in a patient with a condition of haematic polyserositis with effusions non-recovered after drainage evolving for 2 ½ years. [2]

Laboratorial findings (ESR, eosinophilia, LDH) and Imagiology tests (thickening of the serous with multiple cystic formations) surgical confirmed, are another argument in favor of the cystic variety. The histological findings of asbestos in the peritoneum and the non-existence of malignant mesothelial cells in this clinical context, keeping away definitely the hypothesis of a malignant mesothelioma with an inexorably lethal course in 4 to 12 months. [2,16]

A part of this condition, the patient still had epilepsy, alcoholic hepatic cirrhosis (confirmed histologically) with scarce signs of portal hypertension (esophageal varices) and hypertrophic osteoarthropathy (justified in these contexts, as he was a longtime smoker, with a chronic liver disease, working profile and due to do already described association with mesothelioma).

Therefore we have presented a rare form of mesothelioma associated to the best survival prognosis (10 to 20 years, according to some authors). However the morbidity may be substantial due to the tumoral dimensions (there are descriptions in literature of masses weighing from 8 to 10 kg) and to their direct and indirect complications (compression, adherence).[18,19]

The therapy is still controversial, due to the scarce results, but there is a consensus regarding the need of debulking or cytoreduction. [2,5,24] The removal of the general mass is not however exempt from risks (consumption coagulopathy, cardio respiratory arrest, hollow viscera) and recurrences are frequent.

In conclusion, such case illustrates a rare form of mesothelioma presentation with an excellent response to the therapy implemented (surgical removal of the tumor mass) an aspect which is seldom described in literature. ■

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