

RIGHT DIAPHRAGMATIC HERNIA WITH LIVER LUXATION

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Article Received on 30/07/2017

Article Revised on 20/08/2017

Article Accepted on 10/09/2017

ABSTRACT

The post traumatic diaphragmatic hernia often goes unnoticed because it often complicates a violent trauma but most of the time rest asymptomatic. It is recommended to evoke it systematically in case of thoracoabdominal closed trauma or by bladed weapon to diagnose it in time and avoid its complications. **Keywords:** Diaphragmatic Hernia, Hernias post traumatic, diagnosis and treatment. **Observations:** We report two cases of post traumatic diaphragmatic hernia associated with a hepatic dislocation collaged in the service of general surgery at the 5th Military Hospital. **Results:** The age of both patients was respectively of 45 and 72 years old. The medical imaging allowed to make the clinical diagnosis by showing the presence of the intestine in intra thoracic associated with a hepatic hernia. The surgery estimates better the hurts at the same time as she allows their treatment. Operated by a suture of diaphragmatic breach with a prothetic strengthening. The follow up were simple without any sign of recurrence.

KEYWORDS: Diaphragmatic Hernia, Diaphragmatic rupture, Liver Herniation, Diagnostic and Treatment.

INTRODUCTION

Diaphragmatic hernias comment traumatic arise on a diaphragmatic breach underestimated, the first clinical description goes back up in 1580 by AMBROISE PARE.^[1] The diagnosis of this affection becomes more and more frequent after the development of the imagery. We report two cases of a diaphragmatic hernia with hepatic dislocation.

OBSERVATION 1

45-year-old admitted in the service on March 8th, 2007 for coverage of a suspected right inguinal hernia. In these histories we note an accident of the public highway arisen three months previously having caused a fracture of the 7th, 8th and 9th ribs. An orthopedic treatment was established in another formation with a good clinical evolution.

For two months the patient complains about right thoracic pain with a dyspnea hampering the patient in his daily activities. Performed the chest X-ray showed an ascent of the right diaphragm with levels hydro aeric levels in the right thorax evoking a diaphragmatic hernia (figure1).

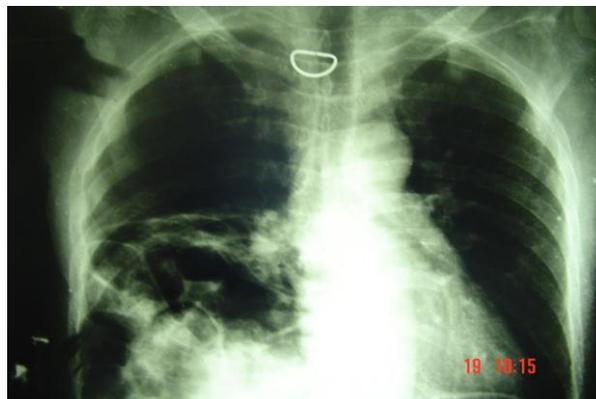


Fig. 1: Radiography of the lung showing hydro aeric levels intra as well as an extra height of the diaphragmatic dome.

An abdominal and pelvic scan confirmed the diagnosis of the diaphragmatic hernia by showing the presence of intestinal handles intra thoracic as well as of an hepatic portion (figure 2). Operated by a first laparotomy the exploration of the right diaphragm shows the passage in the thorax of a part of the cross-functional colonist, the epiploon major and a hepatic dislocation. After careful liberation of the adhesions, the reduction was easy, the hernia opening was twelve centimeters; the banks of the breach were deepened and stitched with points separated from not absorbable thread. A prothetic strengthening by a patch of vicryl was performed. An antibiotic treatment

was prescribed. The follow up were simple. He left the service with a good clinical and radiological evolution.



Fig. 2: Thoracic scan showing hydro aeric levels and intra thoracic hepatic right portion confirming a diaphragmatic hernia.

OBSERVATION 2

A 72-year-old patient was admitted to the service in 2011 for a dyspnea of effort with an intense cough, preventing him from staying straight in his dorsal position, forcing him to adopt a semi-seated, comfortable position. In these histories we note an accident of the public highway arisen twenty years ago causing a thoracic pain having evolved well under medical treatment.

For five months the patient complains about thoracic pain with a dyspnea and intense cough. The chest x ray showed an ascent of the right diaphragmatic dome (figure 3).

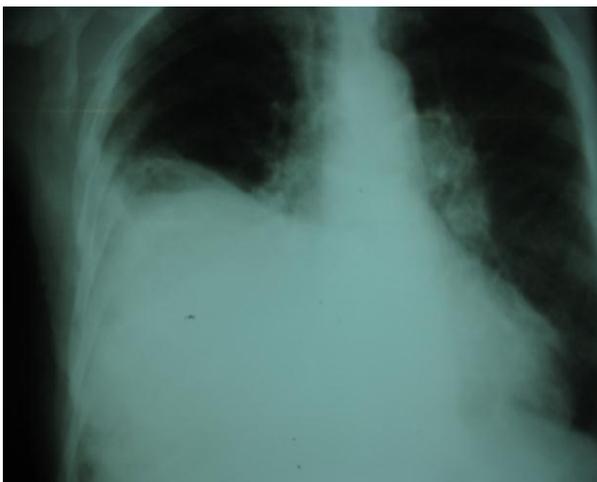


Fig. 3: Lung radiography shows an ascent of the right diaphragmatic dome.

A CT confirmed the diagnosis of the diaphragmatic hernia by showing the presence of the small intestine, the right colon and the intra thoracic liver herniation (figure 4).



Fig. 4: CT scan showing the presence of the intestine, the right colon and the intra thoracic liver herniation.

The patient underwent right thoracotomy, at the same time, the liver was reduced into the abdomen and the diaphragm was repaired (figure 5, 6, 7). The patient improved himself after surgery and was discharged home ten days after. The follow up were simple with a good clinical and radiological evolution.

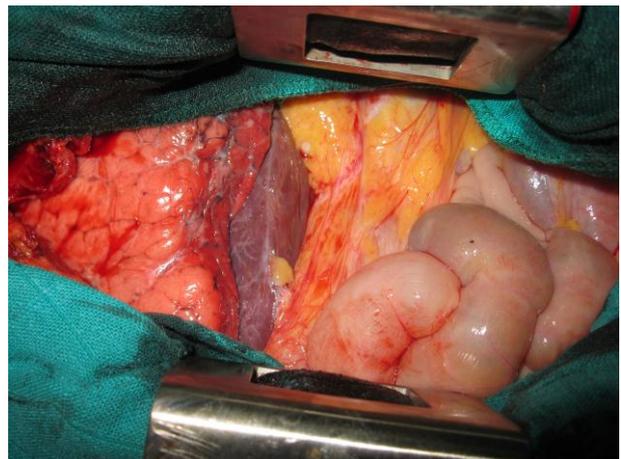


Fig. 5: Operating view showing the presence in intra thoracic of the liver, the small intestine and the right colon.

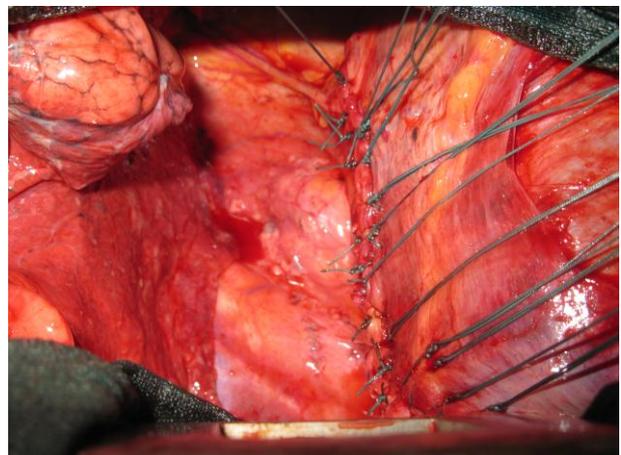


Fig. 6: Suture of the diaphragmatic breach after reduction of herniated organs.



Fig. 7: Strengthening of the suture of the diaphragmatic breach by prosthesis.

DISCUSSION

Hernia is the displacement of parts of the body through holes in the fibrous walls (fascias) that separate different cavities and layers in the body such as thorax, abdomen or layers of fat and muscle. It can be natural or acquired, and forms a bulge / bulge that is often visible and painful. The diaphragmatic hernia is the exit of an organ from abdominal cavity towards the thoracic cavity, it can be congenital or acquired. The diagnosis of diaphragmatic hernias post traumatic remains still late in spite of the contribution of the radiology. In 18 of 50% of cases, the diagnosis is placed only at a distance by causal trauma.^[1]

The extension of appearance varies of a few months in more than 30 years.^[2]

Post traumatic diaphragmatic hernias concern 2% of the severe thoracic and abdominal traumas.^[2] The traumas of the diaphragm are essentially represented by the breaks. They correspond to a muscular breach of the dome which can complicate of an intra thoracic exit of the abdominal viscera.

The frequency of the diaphragmatic lesions is variously estimated: 0, 5%, 7% of isolated thoracic traumas.^[3]

73, 88 % of the diaphragmatic breaks during the closed traumas and 12 a 23 % during the open traumas.^[3]

The mechanism of the break is most of the time indirect by crushing, creating an abdominal or thoracic hyper pressure. During the closed traumas, the diaphragmatic break is connected in 75 % of the cases to a deformation of the lower opening of the secondary thorax in low costal fractures. The abdominal compression is a less frequent mechanism. In this case, the break is secondary in the pressure exercised by organs on the diaphragm. It agrees to verify the absence of break of the bladder which is the corollary of the break diaphragmatic in the low abdominal cavity.

The penetrating traumas represent approximately 25% of diaphragmatic hernias diagnosed.^[4]

Diaphragmatic hernias sit essentially on the left (85 a 95% of cases)^[3,5] On the right, the hepatic interposition seals the breach and opposes the passage of viscera. Its frequency can be considered between 15 to 50 % of the cases^[5] they are exceptionally bilateral (approximately 2%)^[5,6] The breaks of domes are the most frequent. They measures generally from 5 to 15cm. The left ascending evisceration concerns the stomach (80% of cases), the left colonic angle (70% of cases) and the spleen which can be injured or remain intact (30% of cases), exceptionally the kidney.^[2]

The clinical symptom is a function of the precocity of the diagnosis. We distinguished three phases: the premature phase or the signs are dominated by cardiac respiratory signs, intermediate phase or the clinical signs can be absent or atypical (epigastrium pain, vomiting, and digestive bleeding)^[3] and the late phase which is most of the time nausea in the form of an occlusive or perforated syndrome.^[3]

The risk factors of diaphragmatic break are the high-speed shocks, the presence of the hurts intra abdominal and an abnormal thoracic radiography. The notion of poly-traumatism in itself represents a risk factor. The associated hurts are present in 80 % of the cases.^[5]

The medical imaging allows making the diagnosis. The thoracic radiography can show an abnormal extra height of the diaphragmatic dome, the presence in intra thoracic of the aeric or hydro aeric images, an expulsion of the mediastinum structures.^[3] Evoked the diagnosis in 55 % of the cases (7, 8). A normal radiography does not allow eliminating the diagnosis. A fracture of ribs, an effusion and a bruise are frequently associated to the diagnosis of diaphragmatic break.^[1]

The echograph allows visualizing the diaphragmatic break in the form of an interruption more or less spread by the hyper echoes border of the diaphragm.^[9,10]

The CT allows observing signs in favor of a diaphragmatic break, as the thickening and the irregularity of the leaf diaphragm and the visceral hernia^[6] with a sensibility of 61% and a 87% of specificity^[7,8] The limits of this exam are connected to the respiratory movements and to the spacing of cups. The helicoidally scanning allows improving the sensibility (71%) and the specificity (100%) of the diagnosis.^[8] The indication of helical scanning with reconstruction of images must be envisaged in front of any suspected of diaphragmatic break.

The place of the magnetic resonance imaging seems very limited in an emergency context; it allows obtaining a better resolution than the CT in coronal and sagittal images. It is recommended if a diagnostic doubt persists after the initial examinations.

The analysis of the literature shows that the diagnosis of diaphragmatic break is realized in 40% of the cases in per operating.^[1,10,11] Intra-abdominal lesions are associated in diaphragmatic break in approximately 80% of cases and require to perform a laparotomy explorer in the course of which the diaphragmatic lesion is highlighted. The laparotomy explorer being the reference method.^[12] The laparoscopy is an alternative for the coverage of the penetrating of the inferior left part of the thorax not requiring a laparotomy.^[13,14]

CONCLUSION

The diaphragmatic hernia is the exit of an organ of the abdominal cavity towards the thoracic cavity, it can be congenital or acquired. The diagnosis of post traumatic diaphragmatic hernias remains still late in spite of the contribution of the radiology. The surgical approach is a laparotomy or only a laparoscopy in the majority of the cases.

No conflict of interest.

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