CASE REPORT

Intra-Thoracic Stomach Injury

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ABSTRACT:

This case- report presents a successful operation of a ruptured stomach , herniated through a defect in the diaphragm , due to bullet injury which remained in this position for three years , covered by thick adherent pleura which sealed the stomach

INTRODUCTION :

Most cases of herniated stomach and intra thoracic injury secondary to rupture diaphragm are due to blunt trauma more than penetrating or perforating injuries(١). Diaphragmatic injuries may be undiagnosed in the acute posttraumatic period and may remain unrecognized despite a variety of chronic symptom (٢).There is often a delay between the trauma and the diagnosis .The diagnosis is confirmed by chest X-ray , US , CT Scan and barium studies (٣) .

CASE HISTORY:

A.S.D ١٩ year old male sustained a bullet injury to the left side of the chest in October ٢٠٠٨. He was admitted to Diyala General Hospital, where a tube thoracostomy was inserted for relief of traumatic haemothorax. The patient was discharged but a recurrent left sided chest pain forced him to consult doctors, one of them advised anti TB treatment for the possible diagnosis of tuberculoses cavitary lung abscess. He remained symptom free for two years, and then was suddenly admitted for two days in the Surgical Subspecialties Hospital, Baghdad, Iraq in June ٢٠١٠, but he left the hospital before completing his investigations. He was also admitted in July ٢٠١٠ to one of the hospitals , and the diagnosis of lung abscess was once again raised, thus a tube thoracostomy was reinserted, but this time the patient noticed that what he drank came out through the tube. Unfortunately, as he was drinking orange juice, the color indicated to the attendant doctor that it was pus coming out. The tube was removed after few days and the patient was discharged from the hospital. The patient re-appeared again in September ٢٠١١ with severe left shoulder pain and dyspnea. Chest X-Ray (Figure ١) showed air fluid level, which raised the suspicion of lung abscess. New CT scan was arranged and the report stated that there was a cystic mass, ٥,٧ x ٤,٢ cm thick settled in the posterior segment of the left lower lobe, with air inside it giving the possibility of liquefied haematoma or a partially ruptured hydatid cyst. A radio opaque shadow further confirmed the presence of the foreign body (bullet), about ٣ cm long settled in the posterior lower part of descending thoracic aorta covered by the thickened parietal pleura. After a full pre-operative preparation which includes blood preparation and orthopaedic consultation to exclude other causes of his painful shoulder, the patient was operated upon.

OPERATIVE PROCEDURE:

The decision was to do left thoracotomy under general anaesthesia with double lumen intubation using right lateral decubitus position; the chest was explored through the ٦th Intercostals space. Extensive adhesions were encountered mainly to the diaphragm and were dissected carefully. On releasing the left lower lobe from this severe adhesion, the stomach was identified to be opened to the left hemithorax. The injured opened part was covered by the thickened parietal pleura, which was acting like a wall. It was repaired by a double layer continuous suture (after refreshing of the edges)The bullet which seems to have being embedded in the wall of the descending thoracic aorta, moving with the aortic pulsation was cautiously removed as shown in Figure ٢.

The gastric rugae were seen clearly as shown in Figures ٣ and ٤ . A big circular defect was identified in the diaphragm (Figure ٥) and stomach; greater part of the omentum was seen to pass through it. Release of the adhesions around the

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diaphragmatic opening was done and both the stomach and gastro colic omentum returned to their original infra diaphragmatic location. Diaphragmatic defect was repaired by double layer, non absorbable sutures; the thickened pleura resected haemostasis was secured and a single tube thoracostomy was inserted .Closures were done in layers.

Recovery from the anesthesia was smooth, . Post operative course was uneventful apart from mild fever and patchy atelectasis of the left lung, which responded nicely to physiotherapy and antibiotics medications (Figure ٦). The patient was maintained on nothing per orum for ٤ days, after that water soluble contrast study , revealed no leak from the repaired stomach (Figure ٧), patient resume oral intake and discharged in a good condition. He showed great improvement during the follow up visits for six months and follow up chest X-Ray demonstrated a fully expanded lung (Figure ٨). The obtained histopathology of the removed pleura showed a chronic inflammatory pleuritis.

DISCUSSION :

Diaphragmatic rupture and intra thoracic stomach herniation are not often reported in literatures [٢،٣،٤،٥] . Such cases are still encountered in our country due to high prevalence of bullets and blast injuries consequent upon political and social instability.

It is logical for these patients to be presented with increasing dyspnea and easy fatigability consequent upon the increasing pressure of the herniated stomach on lung parenchyma, impairing its function.

The tools used for diagnosing such cases are similar, mainly chest X-Ray and CT scanning. However this case was diagnosed operatively, as the pre-operative CT chest report was more with lung abscess or ruptured hydatid cyst which is common in Iraq.

The patient was initially treated of traumatic haemothorax and later managed as empyaema two years after, such presentation was also reported by Vento et al [٦], however there are few cases presented with obstructive symptoms consequent upon intra thoracic gastric volvulus [٢،٣ ،٥].

The finding of a bullet embedded in the wall of the descending thoracic aorta moving with its pulsation is unique to this patient. The Patient as well as other patients reported in the above mentioned literatures ran a smooth post operative course and discharged well with no fatality.

CONCLUSION:

A careful follow up of patients suspected to have ruptured diaphragm and intra thoracic ruptured of the stomach should be always put in mind once unusual fluid or what is supposed to be gastric content is drained through a tube thoracostomy placed intra thoracically in which case repeated X-rays should be considered during hospitalization as well as days after discharge.

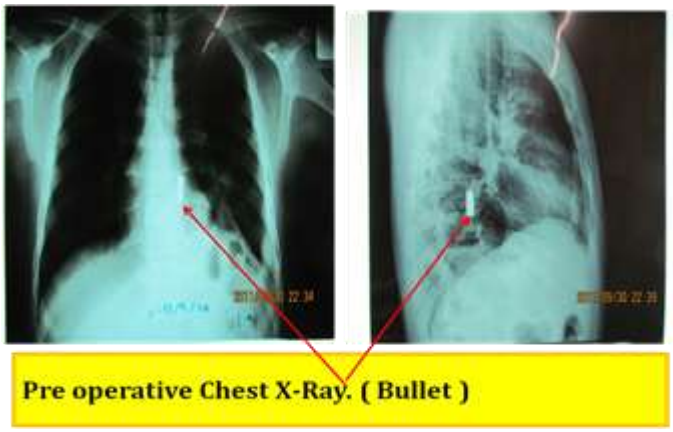


Figure ١: Preoperative Chest X-Ray.

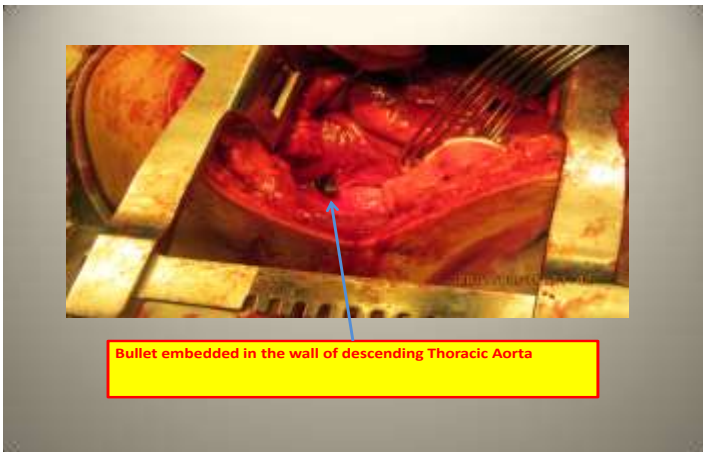
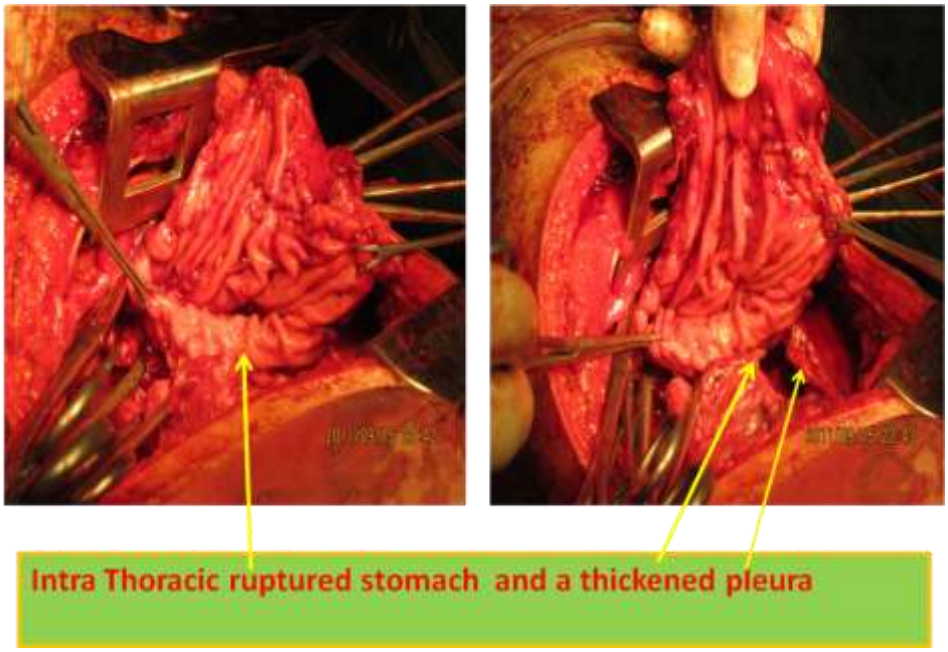


Figure ٢: Bullet seen embedded in the descending thoracic aorta.



Figures ٣ & ٤: Intra thoracic ruptured stomach and thickened pleura.

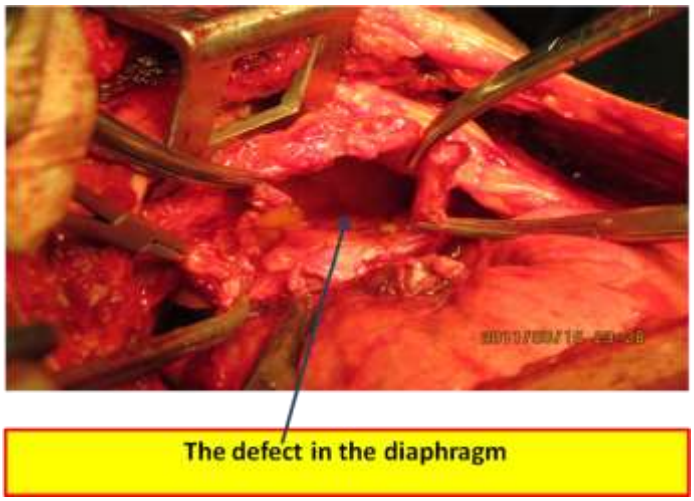


Figure ٥ : The defect in the diaphragm.

Figure ٦ : Post operative chest X-Ray.

Figure ٧: Post operative contrast study showed no leak.

Figure ٩: Chest X-Raytaken six months after surgery.

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