

Surgical Experience with Traumatic Diaphragmatic Hernia (A CASE PRESENTATION)

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Traumatic diaphragmatic Hernia can be produced by penetrating or blunt thoracoabdominal trauma. This diagnosis needs to be entertained in any severe trauma of lower chest or upper abdomen. The condition is frequently overlooked, leading to pulmonary problems or the formation of a chronic hernia. Associated injuries are very common and may distract the surgeon from careful examination of the diaphragm.

Diaphragm rupture in blunt trauma is uncommon. Usually a burst-type injury causes radial lacerations of the central tendon of the diaphragm. Approximately 80-90% occurs in the left hemi-diaphragm, since the liver provides the right hemidiaphragm with an element of protection from direct forces. The incidence of diaphragmatic rupture with blunt trauma is generally considered to be 1 to 3%.

The path of any projectile or stab wound in the area of the diaphragm must be followed carefully. Since the diaphragm is dome-shaped, it may be injured in more than one place by a single penetration. Any wound between the fourth intercostal space and the umbilicus may potentially injure the diaphragm. Right-sided lacerations may be missed because of tamponade by the underlying liver.

Symptoms are due primarily to associated injuries. The diaphragmatic rupture itself may cause a degree of respiratory distress as the hemithorax accumulates effusion or is compromised with bowel contents. Sometimes mediastinal shift will be significant.

If a herniated viscus sustains concomitant injury, intestinal spillage may occur in the pleural space.

The diagnosis is usually suggested by x-ray. The stomach is often seen in an abnormally high position, and sometimes other hollow organs are noted in the chest. The course of the nasogastric

tube may be seen entering the left chest, confirming the diagnosis. If there is no immediate visceral herniation, the diagnosis may be missed. Subsequent herniation and effusion formation will often cause respiratory distress. Traumatic hernias are frequently misdiagnosed as loculated hemothorax leading to the erroneous use of chest tubes. Sonography may also contribute to the diagnosis of traumatic diaphragmatic hernia. Barium studies of the intestine or colon are often helpful in diagnosis of chronic hernias.

If the defect is recognized acutely, repair should be undertaken. Abdominal exploration usually offers the best exposure. Associated injuries can be recognized and repaired, and the diaphragmatic defect can be exposed adequately. A single layer closure of interrupted non-absorbable sutures has been used successfully. Some surgeons prefer a two-layer closure. A chest tube should be placed for temporary drainage.

Chronic hernias can be managed selectively, unless they present with signs of acute intestinal obstruction. Often the colon or a portion of the stomach is herniated into the chest.

After proper preparation, these can be approached either transabdominally or transthoracically. The thoracic approach allows better access to multiple adhesions that often involve the intestine and the pulmonary parenchyma. Primary repair of the diaphragm is usually possible, but prosthetic patches can be employed when necessary. There should be a very small incidence of recurrent herniation following repair. The mortality associated with diaphragmatic injury is often quoted as 10-15%. This is largely due to associated injuries but is occasionally a consequence of complication from a missed diagnosis.

CASE PRESENTATION

(I) Patient Name: B.K.S.

Age : 53Yrs. Sex: Female

Admission: 07/01/2058

Operated : 12/01/2058

Discharged : 01/02/2058

C/O

Cough and difficulty in breathing on excretion for few years.

Past History : Fall from height 25 years back and Blunt injury chest and abdomen in remore village

Clinical Examination : Bowel sound over Lt. side chest

X-Ray Chest: Lt. Hemidiaphragm lifted up and gas shadow over Lt. chest, Barium shallow-illustrated stomach over Lt. chest cavity.

MRI: Chest and abdomen showed Lt. Hemidiaphragm defect with abdominal contents in Lt. chest cavity.

Operated : 12/01/2058

Lt. lower thoracotomy through 8th icspace Lt. lung was found collapsed. Lt. pleural cavity filled with stomach, colon large central defect in left Hemidiaphragm from pericardium to Lt. chest wall Torn-up edges of Lt. Hemidiaphragm were found rolled up. Abdominal contents were reduced from Lt. chest cavity.

The rolled edges of Lt. Hemidiaphragm were approximated with non absorbable silk sutures with interrupted stitches in two layers. Chest closed in layers with one drain. Pt. had smooth post operative recovery & discharged on 01/02/2058.

Discussion :

We do frequently come across left hemidiaphragmatic trauma following penetrating bullet and sharp weapon injury of lower chest and upper abdomen. Repair of these diaphragmatic injuries are satisfactory. The incidence of right diaphragmatic tear following trauma is very rare But we have encountered few Rt. diaphragmatic tear following burst liver Abscess MJSBH Vol. III.

Diaphragmatic tear following blunt abdominal-thoracic injury are not frequently encountered in our day to day surgical practice.

Diaphragmatic tear following blunt injury are usually larger then following penetrating injury and usually they present late and difficult to surgically repair.

Conclusion : Every blunt thoraco abdominal injury should have radiological examination to exclude diaphragmatic tear.

References

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Diaphragmatic Tear During Surgical Repair



Diaphragmatic Tear after Surgical repair



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