

POSTER PRESENTATION

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Surgical tactics in treatment of traumatic ruptures of the diaphragm: our experience

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Background

The aim of this retrospective study was to analyze our experience with operative approach of traumatic rupture of diaphragm (TRD).

Methods

38 patients with TRD (34 men and 4 women ranging from 13 to 70 years) were treated in 1993-2013. 29 patients (76%) had a left TRD and 9 patients (24%) - right TRD. Multiple-associated injuries were observed in 31 patients (82%), and isolated TRD - in 7 patients (18%). Causes of trauma included vehicle crash for 33 patients and fall from height for 5.

Results

TRD was diagnosed preoperatively in 32 patients (84%) by contrast X-Ray of gastrointestinal tract, abdominal ultrasound, and CT scan of the chest and abdomen. In 6 (16%) patients TRD was diagnosed during surgery. We did not use pleural centesis to avoid injury of abdominal organs. 27 patients (71%) underwent surgery upon 1 month of trauma episode, and 13 (34%) - after 1 month to 13 years. Right lateral thoracotomy on the 6th interspace was performed in 9 (24%) patients with right TRD. In case of large ruptures the diaphragm was repaired by simple interrupted suture to chest wall on 1-2 interspaces above anatomical juncture-line which allowed repairing the diaphragm out of high tension. 11 patients (29%) with old left TRD underwent left lateral thoracotomy on the 6th interspace. In both left and right TRDs the large diaphragmatic defects were repaired by polypropylene mesh. 18 (47%) patients with acute left TRD were treated by left lateral thoracotomy

accompanied by upper-medial laparotomy (11 cases) and laparoscopy (7 cases) for better examination of abdomen and restoring lesions. We observed 3 deaths (8 %) - 2 from severe craniocerebral trauma and 1 from pulmonary thromboemboli.

Conclusions

Our experience showed superiority of repairing of diaphragm on 1-2 interspaces above anatomical juncture-line in right TRD to avoid hypertension of sutures and accompanying thoracotomy with laparoscopy in left TRD as a rational surgical approach.

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