

#### 44. MANAGEMENT OF TRAUMATIC DIAPHRAGMATIC INJURIES.

**Author:** Micinschi Nadina

**Co-author:** Malcova Tatiana

**Scientific adviser:** Radu Gurghiș, Senior scientific researcher, *Nicolae Testemitanu* State University of Medicine and Pharmacy of the Republic of Moldova.

**Introduction.** Diagnostic and curative management of diaphragmatic lesions (DLs) is still difficult, representing a significant medical problem in both penetrating and blunt trauma.

**Aim of study.** To review the anatomy and physiology of the diaphragm, to describe the clinical presentation of traumatic DLs, and to discuss the diagnosis and therapeutic options available for traumatic DLs while highlighting the role of the trauma team in evaluating patients with this condition

**Methods and materials.** Retrospective study was conducted between 2014–2021 in Surgery Department Nr.1 "Nicolae Anestiadi", the Institute of Emergency Medicine, which included 48 patients with diaphragmatic lesions. The following parameters were evaluated: epidemiological data, trauma causes, defect size, presence of associated lesions, mean time from injury to surgery, applied surgical procedure, and postoperative morbidity and mortality.

**Results.** M:W ratio 2:1, mean age– $35\pm 13.4$  years. Penetrating injuries were registered in 38 (79.2%) cases, while blunt abdominal trauma in 10 (20.8%) situations. Traumatic events: stabbing–35 (72.9%), aggression–2 (4.2%), car crashes–9 (18.75%), and catatrauma–2 (4.2%). On admission 13 (27.1%) patients were hemodynamic unstable. The following diagnostic tests were performed: chest radiography–39 (81.25%), FAST–36 (75%), Computed Tomography–15 (31.25%), laparoscopy–15 (31.25%), and thoracoscopy–3 (6.25%). In most cases, the diagnosis was established during first 72h after traumatic event–43 (89,6%). DL was discovered preoperative in 23 (48%) cases, while intraoperative in 25 (52,1%) victims. Isolated DL was established in 8 (16.7%) cases, accompanied injuries were present in another 40 (83.3%) situations, including parenchymatous organ injury–23 (57.5%), hollow organ lesion–12 (30%), and lung damage–7 (14.6%). DL was localized on the left side in 33 (68.75%) cases, on the right side–15 (31.25%), the wound diameter ranging from 0.5cm to 20cm. Surgical treatment was applied in all the cases. The following surgical access techniques were used: laparotomy–40 (83.3%), thoracotomy–2 (4.2%), combined thoracoabdominal access–3 (6.3%), and thoracoscopy–3 (6.3%). The surgical procedure involved a reduction of herniated viscera, treatment of associated lesions, and defect repair by simple suture in 46 (95.8%) cases, and duplication–2 (4.2%). Postoperative mortality–2 (4.2%).

**Conclusion.** Diaphragmatic injury should be routinely suspected in patients with chest or abdominal trauma. The most common diaphragmatic lesion is found intraoperatively, the laparotomy being dictated by the hemoperitoneum. In patients with inferior thoracic wounds and hemodynamic stability, laparoscopy and thoracoscopy can definitely establish the diagnosis. In addition, in the absence of intraabdominal lesions, thoracoscopy allows definitively to resolve the defect.