Diaphragmatic Eventration: A Late Complication of Perforating Cervical Trauma

Eventração Diafragmática: Uma Complicação Tardia de um Traumatismo Cervical Perfurante

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Received/Recebido: 18/06/2022 - Accepted/Aceite: 31/08/2022 - Published online/Publicado online: 14/10/2022 - Published/Publicado: 31/12/2022

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KEYWORDS: Diaphragmatic Eventration/etiology; Peripheral Nerve Injuries; Phrenic Nerve/injuries

PALAVRAS-CHAVE: Eventração Diafragmática/etiologia; Lesões dos Nervos Periféricos; Nervo Frénico/lesões

Diaphragmatic eventration is the abnormal elevation of a hemidiaphragm due to lack of muscle/nerve function, maintaining its anatomical fixations. It is a very rare condition with an incidence of less than 0.05%, more commonly affecting the left hemidiaphragm. It may be congenital or acquired, thus presenting in both the pediatric and adult populations. Acquired cases are more common and are due to etiologies that result in phrenic nerve injury and muscle atrophy.

A 64-year-old caucasian woman, victim of a left perforating cervical trauma that resulted in a phrenic nerve injury and left upper limb paralysis ten years ago, presented in our health unit with dyspnea, epigastralgia, anorexia and weight loss that has been worsening in the past year. Physical examination showed decreased breath sounds at the left lung base and discomfort on palpation of the epigastrium. A chest X-ray was requested, showing an elevation of the left diaphragmatic dome – possible diaphragmatic hernia/eventration (Fig. 1). Computed tomography (CT) was requested confirming the presence of a diaphragmatic eventration, as well as signs of gastric volvulus with mediastinal shift and partial atelectasis of the left lower lung lobe (Fig. 2). Spirometry showed a restrictive pattern. Radial diaphragmatic plication surgery with gastropexy was performed (Fig. 1). After treatment, the patient was asymptomatic, having fully recovered lung function.
Diaphragmatic eventration patients have variable presentations. Most patients are asymptomatic; however, some may present important, but nonspecific, gastrointestinal and respiratory symptoms. X-ray and CT are used to confirm the diagnosis, and pulmonary function tests should be performed. Treatment is determined by etiology and clinical severity. In asymptomatic or mild cases, supportive care is recommended. In severe cases (respiratory distress, recurrent pneumonia, mediastinal shift, inability to be removed from mechanical ventilation), surgical plication may be indicated.

**AUTHORS CONTRIBUTION/CONTRIBUIÇÃO AUTORAL**

MB: Data collection, research, article writing

MB: Recolha de dados, investigação, redação do artigo

**ETHICAL DISCLOSURES**

**CONFLICTS OF INTEREST:** The authors have no conflicts of interest to declare.

**FINANCING SUPPORT:** This work has not received any contribution, grant or scholarship.

**CONFIDENTIALITY OF DATA:** The authors declare that they have followed the protocols of their work center on the publication of data from patients.

**FIGURE 1.** Comparison between preoperative X-ray and one month postoperative control X-ray. Preoperative X-ray shows marked elevation of left diaphragmatic dome (arrows), with elevation of the abdominal viscera (A). One month postoperative control X-ray shows partial atelectasis of the left lower lung lobe (smaller than previous exam) and occlusion of the left costophrenic recess (B).

**FIGURE 2.** Computer tomography shows left diaphragmatic eventration (arrows) causing right mediastinal shift and left atelectasis of the lower lung lobe.

**PATIENT CONSENT:** Consent for publication was obtained.

**PROVENANCE AND PEER REVIEW:** Not commissioned; externally peer reviewed.
RESPONSABILIDADES ÉTICAS

CONFLITOS DE INTERESSE: Os autores declararam a inexistência de conflitos de interesse na realização do presente trabalho.

FONTES DE FINANCIAMENTO: Não existiram fontes externas de financiamento para a realização deste artigo.

CONFIDENCIALIDADE DOS DADOS: Os autores declararam ter seguido os protocolos da sua instituição acerca da publicação dos dados de doentes.

CONSENTIMENTO: Consentimento do doente para publicação obtido.

PROVENIÊNCIA E REVISÃO POR PARES: Não comissionado; revisão externa por pares.

REFERENCES


