

DIAPHRAGM PPLICATION AS A RESULT OF ITS PARALYSIS:

A MODERN VIEW OF THE PROBLEM

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Abstract

Paralysis of the diaphragm occurs as a congenital pathology or can be acquired. When the diaphragm is denervated, it can undergo fibrosis, atrophy, and necrosis. Paralysis of the diaphragm is often the result of trauma. It can be secondary to cardiothoracic surgery, phrenic nerve root damage, and cervical nerve block, as well as removal of chest tumors encroaching on the phrenic nerve (en bloc resection). Demyelinating disorders, viral infections, and other inflammatory processes can also lead to diaphragmatic paralysis. Dyspnea is the most common complaint in symptomatic patients. Diaphragm plication (plasty) is indicated for patients with severe shortness of breath who have not responded positively to conservative treatment methods. There are many surgical approaches to diaphragm plication, including open thoracic, open abdominal, minimally invasive transthoracic, minimally invasive transabdominal, and robotic. Video-assisted thoracoscopic surgery is a widely used technique associated with positive outcomes, as evidenced by improved postoperative respiratory function scores, fewer pleural drain days, decreased patient-reported dyspnea, and shorter hospital stays. Laparoscopic plication is also an acceptable technique. There is also a robotic method. These interventions have been shown to improve spirometry and reduce dyspnea. There is a small amount of data on open abdominal surgery, and currently there is insufficient data to evaluate its effectiveness. Open thoracic diaphragmatic plications were associated with improved spirometry and respiratory failure scores. All considered surgical approaches are acceptable for the treatment of diaphragmatic paralysis. No surgical intervention is considered optimal, but minimally invasive approaches have become more popular. The success of these surgical techniques largely depends on the surgeon's preference and level of experience.

Keywords: minimally invasive thoracic and abdominal surgery; robotic surgery; plication; paralysis of the diaphragm

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