

STERNAL DEHISCENCE IN PATIENTS WITH MODERATE AND SEVERE CHRONIC OBSTRUCTIVE PULMONARY DISEASE UNDERGOING CARDIAC SURGERY: THE VALUE OF SUPPORTIVE THORAX VESTS

Sezai Celik, MD, a
Ahmet Kirbas, MD, b
Onur Gurer, MD, b
Yahya Yildiz, MD, c
Omer Isik, MD, b

Objectives:

Sternal dehiscence after open surgery is a major cause of morbidity and mortality, and chronic obstructive pulmonary disease is a significant risk factor. Therefore, we aimed to determine whether moderate and severe chronic obstructive pulmonary disease had an effect on the development of sternal dehiscence and whether the use of the Robicsek technique for sternal closure along with sternal support vest postoperatively would reduce the incidence of sternal dehiscence in patients with moderate/severe chronic obstructive pulmonary disease undergoing cardiac surgery.

Methods:

Two studies were performed. In study 1, 842 patients undergoing cardiac surgery and figure-of-8 wire closure were retrospectively evaluated in 2 groups: group 1a (328 patients with chronic obstructive pulmonary disease) and group 1b (514 patients without chronic obstructive pulmonary disease). In study 2, 221 patients with moderate and severe COPD who were scheduled for open surgery were prospectively enrolled. The Robicsek technique was used for sternal closure. The postoperative thorax support vest was used in 100 patients (group 2a), and no additional procedure was applied in 121 patients (group 2b).

Results:

In study 1, the dehiscence rate was significantly higher in group 1a (7.9%) than in group 1b (1.2%., $P < .001$), and mortality rates in patients with dehiscence were 53.8% and 33.3%, respectively.

In study 2, the dehiscence rate was significantly lower in group 2a (1%) than in group 2b (11.5%., $P = .002$).

None of the patients with dehiscence in group 2a died, and 35.7% of patients died in group 2b.

Conclusions:

The Robicsek technique for sternal closure and the use of a thorax support vest postoperatively are highly effective in preventing sternal dehiscence after cardiac surgery in patients with moderate and severe chronic obstructive pulmonary disease. (J Thorac Cardiovasc Surg 2011.,141:1398-402)