Randomized comparison of awake nonresectional versus nonawake resectional lung volume reduction surgery

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Objective

The study objective was to assess in a randomized controlled study (NCT00566839) the comparative results of awake nonresectional or nonawake resectional lung volume reduction surgery.

Method

Sixty-three patients were randomly assigned by computer to receive unilateral video-assisted thoracic surgery lung volume reduction surgery by a nonresectional technique performed through epidural anesthesia in 32 awake patients (awake group) or the standard resectional technique performed through general anesthesia in 31 patients (control group). Primary outcomes were hospital stay and changes in forced expiratory volume in 1 second. During follow-up, the need of contralateral treatment because of loss of postoperative benefit was considered a failure event as death.

Results

Intergroup comparisons (awake vs control) showed no difference in gender, age, and body mass index. Hospital stay was shorter in the awake group (6 vs 7.5 days, P = .04) with 21 versus 10 patients discharged within 6 days (P = .01). At 6 months, forced expiratory volume in 1 second improved significantly in both study groups (0.28 vs 0.29 L) with no intergroup difference (P = .79). In both groups, forced expiratory volume in 1 second improvements lasted more than 24 months. At 36 months, freedom from contralateral treatment was 55% versus 50% (P = .5) and survival was 81% versus 87% (P = .5).

Conclusions

In this randomized study, awake nonresectional lung volume reduction surgery resulted in significantly shorter hospital stay than the nonawake procedure. There were no differences between study groups in physiologic improvements, freedom from contralateral treatment, and survival. We speculate that compared with the nonawake procedure, awake lung volume reduction surgery can offer similar clinical benefit but a faster postoperative recovery.

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