Comparison of general anesthesia and thoracic epidural anesthesia in diagnostic thoracoscopic operations

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Background

Advances in lung ventilation and anesthetic techniques have led us to reach better outcomes in thoracic surgical procedures. Currently, general anesthesia (GA) alone or combined with other techniques is considered the best option for the anesthetic management of patients undergoing thoracic procedures. Some publications, however, have suggested better clinical outcomes in patients who undergo thoracic procedures under thoracic epidural anesthesia (TEA). This study aimed to compare outcomes of diagnostic thoracoscopy between patients with GA and TEA.

Methods & Materials

In this randomized, prospective study, 30 ASA I-II candidates of diagnostic thoracoscopy (mainly due to pleural effusion) underwent either GA (n=15) or TEA (m=15) in Imam Reza Teaching Center from April 2013 to April 2014. Pre-, intra- and post-operational vital signs and O2 saturation, pre- and post-operational parameters of arterial blood gas (ABG), and post-operational pain, need of analgesics, complications, hospital stay and mortality were documented and compared between the two groups.

Results

Six males and 9 females with a mean age of 42.07±14.85 (range 20-60) years in the TEA group were compared with 11 males and 4 females with a mean age of 44.33±14.44 (range 20-60) years in the GA group (p=0.07 for sex and 0.68 for age). Except for maximum respiratory rate and maximum diastolic blood pressure during operation, which were significantly higher in the GA and TEA groups,

respectively; other vital signs and ABG parameters were comparable between the two groups. Although of better condition in the TEA group, the mean post-operational pain, dose of analgesics and hospital stay were comparable between the two groups in terms of statistical significance. No case with intra-operational agitation, change to general anesthesia, complications, need for intensive care unit admission, or mortality was documented.

Conclusion

In candidates of diagnostic thoracoscopy, TEA is at least equal to GA in terms of intra-operational vital signs and parameters of ABG. TEA is insignificantly superior to GA regarding post-operative pain and hospital stay.

Keywords: *Diagnostic Thoracoscopy, General Anesthesia, Thoracic Epidural Anesthesia*