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Commentary

Commentary: Early Bedside Pleurodesis for Postoperative Air Leak: Proper Indications and Agents?

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In this retrospective study, the authors evaluated the effectiveness of bedside pleurodesis with either autologous blood or 50% glucose solution in the early period after lung resection surgery at a single center [1]. The study included 64 patients in the blood group and 36 patients in the glucose group over a period of approximately 5 years. A propensity score-matched analysis was performed, and 143 patients were excluded due to the use of multiple agents in addition to autologous blood or 50% glucose solution, or a combination of agents. The indication for bedside pleurodesis was not standardized in terms of the amount of air leak or choice of agent. The authors found that both procedures were feasible, with acceptable outcomes, and compared the start time of the procedure, tube indwelling time after the procedure, and other factors.

In order to evaluate bedside pleurodesis, a risk-benefit analysis is useful. For risk, the potential complications of the procedures, such as pain, aggravated pneumothorax, subcutaneous emphysema, and empyema, should be considered. It would be helpful to consider the grade of complications. A cost-benefit analysis could also be performed to evaluate the usefulness of the procedures. This study conducted a risk-benefit analysis, but not a cost-benefit analysis. However, it would be helpful to provide cost-benefit information to readers.

After propensity score matching, the demographic and baseline characteristics were well-matched between the 2 groups. Nonetheless, it could be questioned why this matching was necessary, as the only unbalanced variable before matching was the sex ratio. The postoperative total tube indwelling time and post-pleurodesis tube indwelling time were not significantly different between the 2 groups. The only difference was the postoperative day on which the first bedside pleurodesis was performed, which was not a significant factor in this study because the indication was not standardized.

The success rate of the procedures was 52% and 63% after the first attempt and 77% and 86% after the second attempt in the blood and glucose groups, respectively. The authors recommended performing at least 2 attempts at pleurodesis before switching to other modalities, including other agents or interventions. It is possible that other recommendations or hypotheses could be made based on the high success rate after the second attempt, as it raises the possibility that increasing the amount of glucose or blood in a single attempt could increase the success rate. However, because the risk of complications such as fever and pain after pleurodesis with a large amount of agents may be increased, proposals for increasing the amount of agents should be carefully selected.

The authors concluded that these bedside pleurodesis procedures effectively reduced the length of hospital stay. However, the data from this study may not be sufficient to support this conclusion as it only compared 2 groups (blood and glucose). To draw conclusions on the role of

reduction in length of stay, data from a control group without pleurodesis or a placebo group would be necessary.

The indication used in this study was a large amount of air leak, up to 20 mL/min, after postoperative day 1. It would be beneficial to analyze the amount of air leak at the time of pleurodesis in order to determine the optimal timing for the procedure. Standardizing the indications for pleurodesis would also be necessary for a more accurate analysis and for providing good data to physicians and surgeons in future studies.

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Author contributions

All the work was done by Hoseok I.

Conflict of interest

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