

## Peer Review File

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### Reviewer A

Comment: The authors describe the characteristics of PSP patients treated with VATS bullectomy with or without staple line PGA/autologous blood spray reinforcement in a 14-year period in a single hospital.

The analysis of these cases and the factors associated with recurrence seems sound, and their conclusions are justified.

They correctly highlight the limitations to their study.

Reply: Thank you very much for your appropriate evaluation and comments.

### Reviewer B

Comment: It is thought that an appropriate conclusion was drawn by showing the Hazard ratio as a paper followed by long-term follow-up after the recurrence prevention method using autologous blood and PGA sheet.

Although it is difficult to expand the results of the paper due to the small number of N, it seems that it can be published sufficiently after minor grammar corrections.

Reply: Thank you for your comments and appropriate suggestion. We have proofread the grammar of our manuscript.

### Reviewer C

Comment: Line 14 VTAS change spelling.

Line 12 weight gain.

In the STROBE checklist, pages 8 lines 1-6 and 4 -13 has been quoted this lines are not present there. The numbering of pages in the STROBE checklist should be reviewed to correlate with the text.

Reply: Thank you for pointing out our mistakes. We have corrected spelling and wording. The STROBE checklist has been revised due to discrepancies in the number of lines

between the submitted manuscript and the reviewed manuscript.

#### **Reviewer D**

Comment: This is a clearly written manuscript that is well-focused, well-designed and provides practical information. An additional limitation is the failure to consider possible genetic causes of pneumothorax (see citation below). A comment about the clinical practice at this institution regarding ascertainment of genetic causes would be appropriate (even if the comment is that none is routinely done). The authors suggest a future multi-institutional investigation--for this larger scope, inclusion of the genetic perspective would be

Reference: The Genetics of Pneumothorax, Philip M. Boone et al; AJRCCM; <https://doi.org/10.1164/rccm.201807-1212CI> PubMed: 30681372

Reply: Thank you for your suggestion. In the study, secondary spontaneous pneumothorax was excluded from patients who underwent VATS bullectomy based on medical records and CT images. However, we cannot rule out the possibility that spontaneous pneumothorax due to genetic predisposition could not be completely excluded because the bulla was not located apical area in 14 patients, or a family history of pneumothorax could have been missed. We have added text on results and discussions. Changes in the text: (Page 11/line 2-6), (Page 15/line 16Page16/line1)

#### **Reviewer E**

Comment: Although an interesting concept, this study adds very little to an already large body of literature reporting outcomes with PGA reinforcement of the staple line during surgery for primary spontaneous pneumothorax. In fact, one of the cited references is a meta-analysis by Kadomatsu et al. that explores the use of PGA to prevent recurrence after surgery for PSP. This analysis itself, includes 19 studies evaluating the use of PGA alone to reinforce staple lines. The primary goal of this study was to identify risk factors for recurrence after surgery for PSP, but the findings are not new and have already been well-established in several other studies of this kind. Furthermore, the use of PGA has not been widely adopted in the U.S., where the standard surgical procedure for PSP is VATS bullectomy with pleurectomy and/or pleurodesis (chemical vs. mechanical) to promote obliteration of the pleural space. It is a simple, relatively inexpensive procedure that does not require the availability of a specialized product such as PGA and is associated with

similar if not slightly lower recurrence rates.

Reply: Thank you for your suggestion. As you pointed out, staple line reinforcement with PGA sheets is common in Asian countries and VATS bullectomy with pleurectomy and/or pleurodesis is also a simple and very effective method to prevent recurrence of PSP. However, we consider postoperative pain, postoperative bleeding, disruption of normal pleural physiology, and severe intrapleural adhesions to be disadvantages in younger patients. And there are no clear criteria for using PGA sheets alone or with additional agent. As an alternative to fibrin glue, which is often used as an additional agent to fit PGA sheets, this study focuses on the use of autologous blood, which are inexpensive, risk-free, and simple. We have added text on discussions.

Changes in the text: (Page 14, line 5-11)