



KEYWORDS: THORACIC SURGERY | CLOTSTOP DRAINS



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1 INTRODUCTION

The Thoracic Surgery Department of the Hemer Lung Clinic received and used a total of 20 straight and 5 curved 24 Fr ClotStop catheters from Medela for observational purposes. Chest drains are a major cause of post-operative local pain and are therefore removed as early as possible. Softer drains could perhaps reduce local discomfort, according to our hypothesis and motivation for observing the application. Our clinic offers the full range of thoracic surgeries, except lung transplantation.

2. PROCEDURE

Over a period of 2 weeks in June and July 2021, the drains were used consecutively in VATS lobectomies, wedge resections, pneumothorax surgery and VATS empyema removals. With the exception of the empyema drain (1 straight and 1 curved drain), only singular drains were used. For many years, we have been using standard drains from another manufacturer, which are slightly more rigid in terms of consistency.

The ClotStop catheters were passed at the end of the procedure, immersed in NaCl and usually inserted transcutaneously or via a camera trocar access.

The moistened drain feels slightly softer and has less rigidity than our standard drain. It must be inserted and placed under visual control.

Drainage System:	Thopaz+
Catheter:	24 Fr, straight and curved catheter
Tube handling:	None

3. RESULTS

Due to the lower stiffness, the drain appears to "mould" itself better to the surface of the thorax. Conversely, it was observed that when pushed forward through a trocar access port, the tip of the drain easily snapped off at the level of the first drain side hole, provided the tip got caught on a resistance. This is easily corrected under visual control with the help of an instrument. The softer consistency of the drain certainly benefits patient comfort and could cause less irritation in the intercostal space. However, this hypothesis would have to be evaluated in a prospective comparative study.

Suture fixation of the drain is easy, the connection to the double lumen Thopaz tubing is stable and no problems were encountered during the application. Drain removal at end expiration was done without problems. No catheter blockage or kinking outside the thorax was observed. In one case, we performed 3 autologous blood pleurodesis through a straight drain. On the day of drain removal, a blood- fibrin clot was observed that extended from the thorax to the double lumen drainage tube, filling most of the ClotStop catheter, but not adhering to the inner side of the catheter, and this could be extracted in its entire length.

Criteria for catheter removal:

Fluid quantity:	< 300 ml /24h
Air leak:	< 10 ml/min

4. DISCUSSION AND CONCLUSION

In summary, I consider the ClotStop catheter to be a promising product that can improve patient comfort due to its softer consistency. It is easy to handle, should be checked in position before fixation and meets all the requirements for modern and safe chest drainage. Due to its consistency and coating, the risk of drainage clogging appears to be significantly lower. If the product were to be launched on the market with an attractive price-performance ratio, we would plan a routine application.

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