

Letter to the editor

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Dear Editor,

Aspiration of spontaneous pneumothorax: Success rate may be dependent on method used

I refer to the article "The effectiveness of catheter aspiration in the treatment of spontaneous pneumothorax" by Tang et al.¹ I congratulate the authors for a well conducted study with high standards. Their study results have important practical implications. Furthermore, I would like to draw attention to the possibility that the 'method of aspiration' may also be an important variable affecting the outcome of treatment.

Tang et al mentioned that catheter aspiration was recommended by the British Thoracic Society (BTS) for treatment of spontaneous pneumothorax. In fact, the method of aspiration recommended in the BTS guidelines was "simple aspiration", which was described as aspiration using a gauge-16 cannula under local anaesthetic at the second intercostal space, mid-clavicular line, with a 50 ml syringe and a 3-way tap.² By contrast, "catheter aspiration", in the study of Tang et al, used a commercial apparatus inserted into the fourth or fifth intercostal space, anterior to the mid-axillary line by Seldinger technique.

The results of catheter aspiration, as reported by Tang et al, was appalling. Seven out of eight patients failed, and required tube thoracostomy within 24 hours. Thus the success rate, if success or failure is defined

according to subsequent requirement of tube thoracostomy, was only 12.5%. Increasing the number of aspirations and a longer period of observation, as Tang et al suggested, may improve the outcome; but the cost effectiveness of this approach, compared to tube thoracostomy, will be questionable. Another method to improve the outcome of catheter aspiration is by attaching the catheter to a Heimlich valve.³ Tang et al quoted better success rates of aspiration from various previous reports. These reports had in fact included studies using simple aspiration, and this difference in method may account for the better outcome.^{4,5}

In our unit, guidelines for the indications for aspiration of spontaneous pneumothorax has been in place since April 1999.⁶ Simple aspiration (according to the BTS guidelines) is the method used, and this procedure is performed by our medical officers after proper training. A retrospective audit has been performed to investigate the results of simple aspiration over the six-month period from 22-8-01 to 21-2-02. There was a total of 23 consecutive cases. The mean age (SD) was 24.4 (10.6) years. The outcome of 10 cases (43.5%) was successful and did not require subsequent tube thoracostomy. Even though this success rate leaves more to be desired, it is much better than the success rate of catheter aspiration reported by Tang et al. The cost of the apparatus for catheter aspiration should also be taken into consideration. Senior medical officers or consultants were required to perform the procedure at Tang et al's unit, presumably only during the study period.

Larger studies are needed to identify the factors associated with failed aspiration. The selection criteria for performing aspiration can then be

modified accordingly. Nevertheless, when it comes to the choice of method for aspiration, we still favour the use of simple aspiration over catheter aspiration.

References

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2. Miller AC, Harvey JE. Guidelines for the management of spontaneous pneumothorax. Standards of Care Committee, British Thoracic Society. BMJ 1993;307(6869):114-6.
3. Campisi P, Voitek AJ. Outpatient treatment of spontaneous pneumothorax in a community hospital using a Heimlich flutter valve: a case series. J Emerg Med 1997;15(1):115-9.
4. Andrivet P, Djedaini K, Teboul JL, et al. Spontaneous pneumothorax. Comparison of thoracic drainage vs immediate or delayed needle aspiration. Chest 1995;108(2):335-9.
5. Ng AW, Chan KW, Lee SK. Simple aspiration of pneumothorax. Singapore Med J 1994;35(1):50-2.
6. Chan SS. Current opinions and practices in the treatment of spontaneous pneumothorax. J Accid Emerg Med 2000;17(3):165-9.

Corrigendum

The publisher wishes to draw attention to the following error in the Hong Kong Journal of Emergency Medicine, Vol.9 No.1, January 2002:

On page 40 (figure 1), the dosage of Adrenaline in the box Life threatening/Severe anaphylaxis should be "**Adrenaline 0.5 ml in 1:1,000 solution IM**" instead of "Adrenaline 5 ml in 1:1,1000 solution IM".

The publisher apologises for this error and any inconvenience caused.