AEROSOL ANTISEPSIS : AN EFFECTIVE AND USER FRIENDLY METHOD OF SKIN PREPARATION

Dear Editor,

Meticulous skin preparation is essential for maintaining asepsis prior to surgical operations or invasive anaesthetic procedures and is integral to a successful outcome. If preoperative preparation has been ideal, operative manoeuvres likely to control infection are obviously important [1].

Traditional approach involves initial cleaning of the operative field with a germicidal detergent solution such as chlorhexidine cetrimide which is dried with a swab. The operation field is painted with tincture iodine to allow a wet contact period of 5 minutes. Subsequent cleaning is with methylated spirit which will evaporate to leave the skin dry [2]. Lately, povidone iodine is finding favour as a single agent after detergent preparation. Care has to be exercised in cleaning from the centre of the field to the periphery to avoid contamination from unsterile areas. Antiseptic solutions are usually poured by an assistant onto swabs on holders used by the operator. This practice invariably leads to either spillage due to excess amounts or incomplete preparation if inadequate volumes are employed. The other option commonly used is to employ solutions in bowls and is often associated with gross wastage. Povidone iodine is as such not gauze friendly and does not soak well by either means. The entire exercise necessarily involves use of 2-3 swab holders and multiple swabs.

To obviate these inherent disadvantages we have devised an alternate means of skin preparation. After the standard germicidal detergent preparation, we employ hand spray pumps to spread the antiseptic solutions by aerosol (Fig-1). Nozzle adjustment yields a fine aerosol which is sprayed from the centre of the field to the periphery. A wet contact period of 5 minutes with tincture of iodine spray is followed with a spray of methylated spirit prior to draping. Povidone iodine spray is used as an alternative sole agent. All agents spread easily and evenly over the field with no dripping.

We have been using this method for skin preparation prior to operative and invasive anaesthetic procedures since the last 2½ years. Compared to conventional preparation we have found the aerosol method to have the following advantages ;

- a. Uniform and even spread of antiseptics with minimal or no dripping.
- b. No risk of accidental contact or contamination of the field.
- c. No requirement of swabs or sponge holders.
- d. Significant savings due to avoidance of wastage.
- e. Convenient and user friendly.

A wet contact period of 5 minutes can be ensured by additional spray in case the agents dry on the field. We have prospectively

Fig. 1 : Hand spray pumps

analysed the volumes used in the traditional versus the aerosol approach and found nearly 50% saving of antiseptic solution in aerosol method. In our OT with a workload of 500 major, 850 minor operations and about 700 regional anaesthetic procedures per year, use of the aerosol method translates to an approximate saving of Rs 5500/- per year.

The convenience of the aerosol method is underscored by the fact that our staff was extremely reluctant to revert to the traditional approach when we planned our prospective comparison. Importantly we have found no significant change in the wound infection rates over a 2 year assessment. The hand spray pumps are easily available, low in cost (Rs 30/- for a half litre model) and hardy with an average life of more than a year. We would recommend its trial and usage in other hospitals.

References

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RECURRENT ANTERIOR SHOULDER INSTABILITY

Dear Editor,

Hill-Sachs lesion or posterolateral indentation fracture of the humeral head is caused by compression of the humeral head during dislocation and is pathognomonic for Glenohumeral instability [1]. Here I am reporting 2 cases of anterior shoulder instability with Hill-Sachs lesion, one of a recurrent anterior subluxation and other recurrent anterior dislocation.

First patient was a 24 year old services wrestler who was member of the national team. He reported with complaints of pain in the right shoulder, numbness in the right arm following throwing movements and feeling of something slipping inside the shoulder when arm got into a particular position. Patient had sustained an injury to the right shoulder during a wrestling bout two years ago and thereafter continued to be symptomatic on resumption of wrestling following