Hanging-Drop Technique for Intrapleural Analgesia

To the Editor.—Intrapleural catheter techniques have become an increasingly popular mode of providing postoperative analgesia. Recent studies indicate it may even provide total intraoperative anesthesia.\(^1\) The pain and regional anesthesia service at Hartford Hospital has adopted this method for postoperative analgesia with success but with a slight variation in technique.

As originally stated by Dr. Reiestad, the technique requires one to advance a well-lubricated air-filled syringe fitted to a Tuohy needle off the upper border of the rib. Sudden evacuation of the contents of the syringe identifies the negative pressure filled pleural cavity and hence proper needle placement.\(^2\)

Unfortunately, we were not consistently as successful as Dr. Reiestad and others\(^3,4\) in demonstrating so dramatic an emptying of the syringe. We subsequently tried the loss-of-resistance technique, but found it unsatisfactory, as we could never be certain of needle placement. Specifically, we could not ascertain if our needle was outside the pleural space, within the pleural space, or perhaps within the lung parenchyma, as a loss of resistance could place the needle into any of the above. We frequently were unable to establish analgesia, possibly secondary to incorrect needle placement with this technique.

This led us to search for a more satisfactory option to the lubricated syringe. The hanging drop used to identify the negative pressure epidural space was found to consistently identify the intrapleural space. The technique is quite simple: after the Tuohy needle is placed over the rib, the stylet is withdrawn and the needle is filled with sterile saline until a meniscus is seen at the needle's hub. The needle is advanced over the edge of the rib until the meniscus disappears, signifying negative intrapleural pressure.

The catheter is then inserted and anesthetic deposited in the usual fashion. We usually insert the needle during inhalation, but the negative intrapleural pressure will manifest itself during passive exhalation as well.

We have since used this technique in our last ten patients and have had complete success in providing postoperative analgesia with no occurrence of pneumothorax in patients undergoing both cholecystectomy and nephrectomy, as well as patients with multiple rib fractures.

We therefore offer this technique as an alternative to the lubricated syringe method. We do not wish to imply that our technique is superior or necessarily preferable; we merely feel that it may be a useful option, certainly more effective and probably safer than using a loss of resistance to identify the intrapleural space.

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REFERENCES


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Horner's Syndrome Resulting from a Lumbar Sympathetic Block

To the Editor.—Wills et al. present an interesting report of a 32-year-old male who developed a left-sided Horner's syndrome associated with numbness involving the entire left side of his body following lumbar sympathetic block.\(^5\) Explanations given for this unique occurrence included a restricted paravertebral space resulting in increased cephalad spread of local anesthetic, abnormal sympathetic chain anatomy, or possibly a one-sided high epidural block.

Another plausible explanation that could account for this unexpected result would be an inadvertent subdural injection.\(^2\) As Raj's Practical Management of Pain succinctly states: "A massive subdural injection, although rare, is possible. Local anesthetics travel great distances in this space."\(^5\)

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