together with the delay incurred by the different attempts to mobilize the frozen leaflet before preparing and implanting the second prosthesis. [2] We fully agree that safe execution of TAVI procedures is dependent on careful monitoring during the procedure which should be performed with anaesthetic, echocardiographic and surgical team coordination.

REFERENCES


The phrenic nerve infiltration for ipsilateral shoulder pain

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Received 29 June 2011; received in revised form 29 June 2011; accepted 1 September 2011

Keywords: Thoracic surgery • Postoperative pain • Shoulder pain • Analgesia

We read with great interest the manuscript by Martinez-Barenys et al. [1] in which they compared phrenic nerve infiltration and suprascapular nerve block for ipsilateral shoulder pain following thoracic surgery.

We have used similar technique of infiltration of the periphrenic fat pad in our practice for last 5 years, and we have been able to cut down the use of additional analgesia for the ipsilateral shoulder pain following our lung resections. The technique we use evolved in time and it is different in some aspects. We agree with the authors that shoulder pain is related most likely to the irritation of pericardium, mediastinal, and diaphragmatic pleural surfaces; therefore, we inject the periphrenic fat pad prior to resection and handling of the hilum. We believe that introducing the local anaesthetic at this stage provides a greater reduction in postoperative shoulder pain. We use 20 ml of 0.5% levobupivacaine as our anaesthetic agent and infiltrate the periphrenic fat pad above and below the hilum. We have also considered the use of indwelling catheter with infusion of a local anaesthetic to the periphrenic fat pad; however, we have found that isolated infiltration provided adequate pain relief within first 24 h. We did not observe reduction of the shoulder pain in patients were procedures involved the diaphragm. We think that this may be related to nerve fibres crossing from contra lateral phrenic nerve; however, further studies are required to fully understand the pathophysiology of the shoulder pain following the thoracic surgery.

REFERENCE


Reply to Rychlik et al.

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Received 30 August 2011; accepted 1 September 2011

Keywords: Thoracic surgery • Postoperative pain • Shoulder pain • Analgesia
We would like to thank Rychlik et al. [1] for their interest regarding our comparative study about postoperative isilateral shoulder pain treatment and prevention [2]. The idea of injecting the peripheric fat pad prior to resection and handling of the hilium seems to be very interesting to us, and probably will lead to a better control of postthoracotomy isilateral shoulder pain as has been well documented with the use preemptive analgesia through peridural catheter in thoracic (and others) surgeries [3, 4].

In contrast, even though we agree with Rychlik et al. [1] that levobupivacaine is a theoretically better agent for phrenic nerve block (longer half-time live and more powerful effect) than lidocaine, we would like to reflect our concerns about its clinical use because of its potential cardiotoxicity in case of systemic absorption that is something that could occur with its use in a well-vascularized area as the peripheric fat pad. Regarding this matter, we believe that ropivacaine would be a better option than lidocaine or levobupivacaine because it’s a long-lasting, powerful anaesthetic with less cardiac toxicity [5], and it has proved safety in a clinical setting for phrenic nerve block [6], unfortunately, we have no experience with this anaesthetic.

Finally, we concur that further research is necessary to refine the technique of phrenic nerve infiltration for ipsilateral shoulder pain, but we strongly believe that actually there is enough evidence to recommend the widespread of the technique all over the thoracic surgery units.

REFERENCES

LETTER TO THE EDITOR

Sizing the annulus for transcatheter aortic valve implantation: more than a simple measure?

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Received 16 June 2011; accepted 11 August 2011

Keywords: Aortic valve replacement • Transcatheter aortic valve implantation • Balloon aortic valvuloplasty

Accurate preoperative assessment of the aortic annulus dimension is crucial for the success of transcatheter aortic valve implantation (TAVI). All the available imaging modalities, however, have some weak points, and the ‘gold standard’ to be used is still under debate. In this context, the recent work by Dr Blanke and coworkers is a commendable attempt to develop a standardized, easy to reproduce method for the identification and measurement of the aortic annulus [1, 2].

A very interesting finding of this study is the close correlation found between the preoperative cross-sectional area (CSA) of the virtual ring passing through the nadir of the three aortic cusps and the postoperative CSA. This observation would suggest that preoperative determination of the CSA could help in predicting the final form and size of the aortic annulus in most TAVI patients [1]. However, the behaviour of the aortic root and aortic annulus is not always predictable based on the preoperative exams [3]. This is partly due to intrinsic anatomic properties of the aortic root—the ‘virtual ring’ is largely inhomogeneous, coursing through the muscular septum, the membranous septum and the mitro-aortic curtain. Moreover, leaflet and annular calcifications are often asymmetrical, adding further complexity to any attempt to predict the final shape of the prosthetic valve, the displacement of the native calcified leaflets and the sealing of the annulus around the prosthesis. A very good exemplification of this problem is given by the bicuspid aortic valve, which is usually ovoidal and heavily calcified, and may fail to adapt to the circular transcatheter valve [4].

For this reason, we have developed a simple method to analyse the reaction of the aortic root to the balloon inflation, and to obtain a dynamic measure of the CSA. In the uncertain