Chest X-rays (CXR) are routinely performed after pacemaker implantation on the premise that they can detect a pneumothorax which requires treatment, and that the lead position as seen on the CXR will identify patients who subsequently develop pacing failure. The authors of a retrospective analysis, published in this issue of the Journal, suggest that a routine CXR is not necessary after an uncomplicated pacemaker implantation.\[1\] This proposal needs careful evaluation.

The incidence of pneumothorax is less than 2% after subclavian puncture,\[2\] and those requiring intervention are even less frequent. Therefore, restricting the use of post-procedure chest radiography to patients with a high probability of pneumothorax seems reasonable. Extremes of body mass index (<20 and >30), number of needle passes, experience of the physician performing the procedure, previous subclavian catheterisation, and prior major surgery in the region, all increase the risk of complications.\[3\] It would be wise to factor in such objective predictors while deciding on the need for a CXR rather than simply rely on the “operator’s suspicion” alone. Routine CXR can probably be skipped after lead insertion by extrathoracic subclavian puncture.\[4\]

Fluoroscopy provides only a rough guide to lead positioning during pacemaker implantation. Lead “stability” and pacing parameters override any minor anomalies of position. Therefore, it is not surprising that the post-procedure CXR has generally not proven useful in predicting subsequent pacing failure. However, there are a few caveats. In children undergoing pacemaker implantation, serial post-procedure CXRs are invaluable in monitoring the “tightening” of the atrial loop with growth, and deciding on the timing of lead change. Another situation where the lead position on CXR can be useful is in patients receiving VDD pacemakers. It has been shown that atrial dipole position 6 cm or more below the carina predicts loss of AV synchrony.\[5\] In these cases an erect film is probably more relevant because the atrial dipole can move away from the superior vena cava-right atrial junction (site of the sinoatrial node) on standing and can result in reduced atrial sensed amplitude.\[6\]

And finally, a word in favour of the much beleaguered chest film is in order. A good quality CXR can rule out a significant pneumothorax with a high degree of certainty and adds little in terms of cost or radiation exposure to patients undergoing pacemaker implantation. Therefore there should be no hesitation in ordering one if it will help the physician (and the patient) sleep in peace.

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References