the clavicle to the superior border of the port were also measured. The distance from the superior border of the clavicle to the apex of the curve was 32 mm in the AIR group (95% CI = 30 mm, 33 mm), and 43 mm in the general surgical group (95% CI = 21 mm, 64 mm).

The mean distance from the inferior border of the clavicle to the superior border of the port was 27 mm in the AIR group (95% CI = 23 mm, 31 mm), and 44 mm in the general surgical group (95% CI = 28 mm, 61 mm).

In the 64 patients comprising the AIR group, there was 100% technical success and there were no intra-operative complications. There were no major and four (6.3%) minor early (<30 day) complications as follows: One patient (1.6%) had minor post-procedure bleeding on the same day of the port insertion, prompting attendance at the emergency department. No active haemorrhage was found. The dressing was changed and the patient was discharged.

In one patient (1.6%), two months after insertion, the tip of the line migrated superiorly into the neck, ‘backing-out’ of the IJV, requiring removal and replacement on the contralateral side. Contributing factors to the line migration were thought to include recent vigorous physical activity (the patient admitted to engaging in chopping wood), an increased body habitus and breast prosthesis.

There were no central line associated bacteremias.

In the 23 patients comprising the general surgical group, one patient (4.3%) developed an IJV thrombus, requiring manipulation of the line into a more superior / proximal position within the IJV. No other complications were reported.

True and accurate costing was difficult to ascertain, due to the complicated funding model attached to procedures. Cost data was recorded by each patient encounter with the DHB and was often inclusive of other services performed under that encounter but not necessarily pertaining to port insertion. The best estimate of total cost for the insertion of a Power Port was judged as the sum of the costs of the equipment used in the procedure, the staff fees and the costs any additional imaging used to confirm port position. Within the study time period, the cost of inserting a Power Port at AIR ranged from $1,328 to $2,362 with a mean cost of $2,435 (95% CI = $2,898, $2,972).

Cost data for the general surgical group also reflected additional charges arising from the administration of general anaesthesia, and on some occasions, the need to admit the patient to a hospital ward. The cost for Power Port insertion in the general surgical group varied considerably, ranging from $1,992 to $8,645 with a mean cost of $3,751 (95% CI = $2,481, $4,661).

CONCLUSION

The new Advanced Interventional Radiology service offers many advantages for port vascular access management due to:

- State of the art imaging equipment allowing optimal line positioning
- Accurate placement of local anaesthetic combined with light sedation
- Equipment for line manipulation and port removals
- Day case recovery facilities.
- Low rates of complications.
- Reduced overall costs (no general anaesthesia or post procedure chest x-ray required).
- Significant cost savings can be achieved when port insertions are performed in a hybrid interventional radiology suite, with an average saving per patient of $1,296.

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