

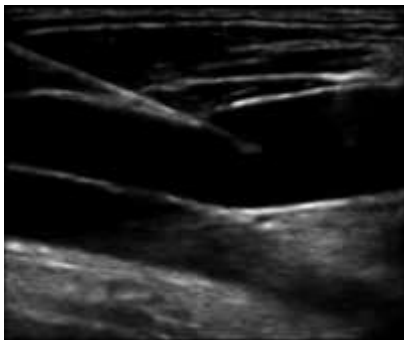
Evaluation of safety in central line insertion under ultrasound and fluoroscopic guidance



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Objective

This study aimed to identify complications and evaluate safety related to internal jugular venous catheter insertion over a 1-year period. All procedures were done under ultrasound guidance with fluoroscopic confirmation of guidewire and central line position.



Ultrasound-guided IJV puncture

Materials and Methods

This retrospective study reviewed all central venous catheters inserted by radiologists with at least 7 years of expertise from 1 April 2017 to 31 March 2018 in a regional hospital in Hong Kong. The indications, procedures and complications were assessed.

Results

A total of 126 central venous catheters were inserted under both ultrasound and fluoroscopic guidance in 122 patients.

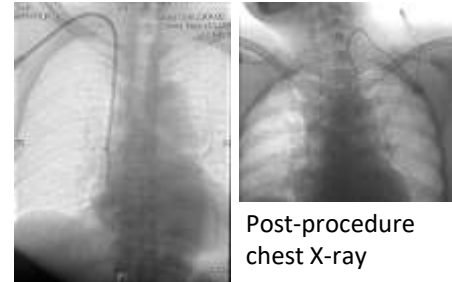
Table 1: Indications

Chemotherapy administration	77.0%
Total parenteral nutrition administration	11.9%
Haemodialysis	7.9%
Antibiotics administration	3.2%

Table 2: Catheters used

Hickman	39.7%
Port-a-cath	37.3%
Hemostar	15.1%
Gamcath	3.2%
Permcath	2.4%
Split cath	2.4%

The right internal jugular vein (IJV) was punctured in 91% of cases, with the remaining at the left IJV due to thrombosed right IJV.



Post-procedure chest X-ray

Post-procedure venogram & CXR	100%
Early complications	0%
Late complications	0%

All patients underwent post-procedure venogram and chest X-ray. No early complications (within 24 hours) were noted, including primary misplacement, pneumothorax, haematoma, vascular perforation and cardiac tamponade. Also, there were no late complications, including infection, displacement, venous thrombosis and blockage.

Conclusion

Central venous catheter insertion is safe under ultrasound with fluoroscopic guidance and should be encouraged.