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IS CHEST X RAY AN ADEQUATE MODALITY FOR CONFIRMING POSITION OF CENTRAL VENOUS CATHETER IN PATIENTS WITH MALIGNANT PLEURAL EFFUSIONS?

Oncology

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KEYWORDS

Central venous catherization is a commonly done procedure in Intensive care units for various indications in patients needing intensive supportive care. Its position is usually confirmed by presence of forward and back flow during cannulation as well as by post procedural chest X-ray to confirm the position of tip of catheter in the intended vessel. But in cases of patients with Malignant haemorrhagic pleural effusions, chest X-ray might be misleading to confirm the position of central venous catheter (CVC). Prompt clinical suspicion and Computed Axial tomography with adequate resuscitative measures in those cases might save the life of such patients. Here we describe a case where CVC position was normal on Chest X-ray, but CT scan revealed otherwise.

A diagnosed case of advanced stage adenocarcinoma right lung was admitted in ICU due to severe breathlessness with hypoxia. The pleural fluid was haemorrhagic and tested positive for malignant cells following which pig tail was inserted which drained haemorrhagic fluid. In view of persistent hypotension central venous catheter was inserted under aseptic technique. Antegrade, retrograde flow checked in all the ports and post catheter insertion chest X-ray showed normal position of tip of catheter. Pig tail drained 2.8, 3, 6.8 litres per day on consecutive days. Increasing amounts of pleural fluid2 drainage raised the suspicion regarding the position of central venous catheter. Packed cell volume was 24 g/dl in both pleural fluid and aspirate from central venous catheter. Computed Tomography (CT) chest confirmed the misplaced1 central line in right pleural cavity. Subsequently the Central venous catheter was removed carefully after consultation with interventional Radiologist.

To prevent such complications generally following steps are used after the CVC insertion:

- Aspiration of blood through all ports and colour of aspirated blood will be seen- but in our case malignant haemorrhagic effusion caused confusion with blood.
- Chest radiograph- has not depicted misplaced catheter as CVP catheter lying at medial aspect of pleural cavity.

Misplaced catheters need careful consideration before these are pulled out as it may lead to torrential haemorrhage if a vessel has been traversed. It is generally safer to leave the device in situ and consult a vascular surgeon or interventional radiologist rather than a hasty removal. CT chest is not a routine modality for confirmation after CVP catheters placement. To avoid such mistakes CVC insertion should be done under real time USG and in any case of suspicion of misplaced catheters, CT chest should be done. We are reporting this case to emphasize the need for precautions to be taken during CVC insertion particularly in cases of malignancy.

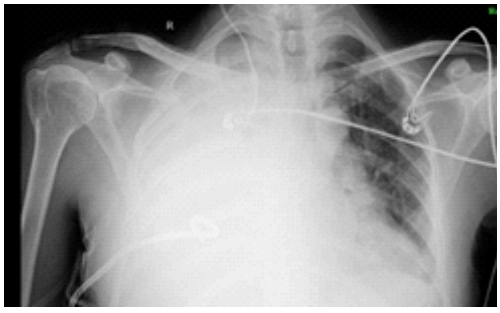

Figure 1:Chest x ray showing opacification of right hemi thorax with pigtail in lower zone of lung and a central line

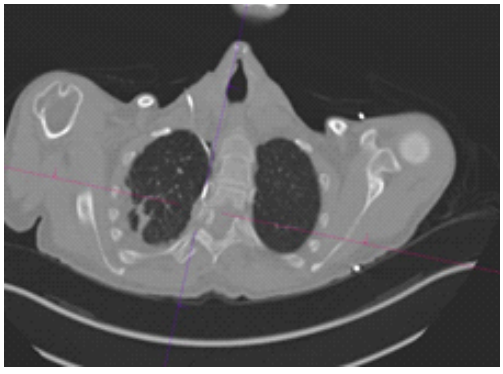

Figure 2: Axial CT cut in lung window demonstrating central line misplaced with tip in right pleural cavity

REFERENCES

1. Migration of Indwelling Central Venous Catheter and Fatal Hydrothorax Eur J Pediatr Surg Rep 2014;2:32–34
2. Madhavi P, Jameson R, Robinson MJ. Unilateral pleural effusion complicating central venous catheterization. Arch DisChild Fetal Neonatal 2000; 82: 248-249 4. Gibson F, Bodenham A. Misplaced central venous catheters: applied anatomy and practical management. Br J Anaesth 2013; 110:333-46.