INSERTION OF A CENTRAL VENOUS CATHETER (CVC)

Keywords: CVC, CVC insertion, central venous line

AIMS

- To provide central venous access when peripheral access is difficult.
- To allow haemodynamic monitoring by monitoring central venous pressure, and enable central gas measurements.
- To enable rapid infusion of fluids/medications.
- To deliver nutritional support.
- To provide access for haemodialysis, plasmapheresis, temporary cardiac pacing or chemotherapy.
- To provide access for vasoactive, inotropic or hypertonic agents that should not be administered peripherally.

KEY POINTS

1. CVC insertion is performed aseptically. At KEMH the procedure is performed in theatre.
2. A midwifery / nurse escort is required where clinically indicated and the midwife / nurse will be required to remain with the patient until a comprehensive clinical handover has been given to the theatre staff.
3. Hair removal is not recommended unless it interferes with dressing adhesion.
4. Written consent must be obtained and documented on the MR295 Generic Consent Form prior to insertion of a CVC.
5. The internal and external catheter length must be documented at the time of insertion by the medical practitioner responsible for the procedure.
6. Two dimensional ultrasound guidance provides a clear benefit compared to the ‘placement by the landmark method’ for decreasing risk factors associated with CVC insertion.
7. Central vascular access devices should have the correct catheter tip location determined radiographically post insertion. This should be documented on the MR 732 ‘CVC & PICC line care plan’ prior to initiation of prescribed therapy.
8. For post-insertion management of CVC placement refer to KEMH Clinical Guideline, O&G: Parenteral Therapy: Monitoring and Management of a Central Venous Line.

CONTRAINDICATIONS FOR CVC

These include:

- an uncooperative patient
- uncorrected bleeding diathesis
- skin infection over the puncture site
- thrombosis
- a pneumothorax or haemothorax on the contralateral side
- presence of only one functioning lung

COMPLICATIONS OF CVC INSERTION

Complications following CVC insertion may include:

- malposition of the catheter
- haematoma
- catheter embolism / air embolism
- arterial puncture
• thrombosis / haemorrhage / sepsis
• pneumothorax / haemothorax
• cardiac tamponade / cardiac arrhythmias

PREPARATION PRIOR TO THE PROCEDURE
1. Check patient consent is documented and in the medical records.
2. Ensure the patient is dressed in appropriate clothing for theatre.
3. Ensure that there are no contraindications to insertion. Arrange medical review if found.
4. Escort the patient to theatre. The midwife / nurse will be required to remain with the patient until a comprehensive clinical handover has been given to the theatre staff.

POST PROCEDURE
1. Check documentation to ensure verification of correct placement of the catheter tip. Confirmation is documented on the MR 732 ‘CVC & PICC Line Care Plan’. **CVC therapy should not be used until correct placement is confirmed.**
2. Confirm that the date and site of insertion is documented on the MR 732 ‘CVC & PICC line care plan’.
3. Prior to leaving the recovery room assess the CVC site – e.g. ensure the dressing is intact and stabilised, note the presence of any exudate, and observe for signs of incorrect placement or complications.
4. Ensure ongoing instructions for catheter management is available e.g. prescribed flushes or infusions.

BIBLIOGRAPHY / STANDARDS

National Standards – 1 Clinical Care is Guided by Current Best Practice
Legislation - Nil
Related Policies / Guidelines – KEMH Clinical Guidelines: Infection Control Policy; O&G: Parenteral Therapy; Central Venous Catheter
Other related documents – Nil

RESPONSIBILITY
Policy Sponsor | Nursing & Midwifery Director OGCCU
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