NEEDLE CRICOTHYROIDOTOMY PROCEDURE

INDICATIONS

To relieve life-threatening upper airway obstructions in situations where manual maneuvers to establish an airway and attempts at ventilation have failed and when endotracheal intubation is not feasible.

EQUIPMENT

1. 14 gauge angio catheter
2. Adapter from 3.0mm ET tube.
3. 10 cc syringe
4. Pediatric BVM Device.

COMPLICATIONS

1. False placement
2. Bleeding
3. Damage to larynx and vocal cords
4. Subcutaneous emphysema
5. Mediasternal emphysema
6. Esophageal perforation
7. Thyroid perforation, hematoma (placement of needle has been distal to cricothyroid membrane - too low)

IMPLEMENTATION (PUNCTURE METHOD)

1. Unless contraindicated by trauma, place a small roll under patient's shoulder to slightly extend neck.
2. Locate cricothyroid membrane by tilting patient's head back and palpating for the V-Notch of the thyroid cartilage (Adams Apple).
3. Prepare the skin with antiseptic solution and maintain aseptic technique.
4. Stabilize the thyroid cartilage between thumb and middle finger of one hand.
5. Press index finger of same hand between the thyroid and cricoid cartilage to identify cricothyroid membrane.
6. Using index finger as a guide, rest middle or ring finger of hand holding needle/cannula on the skin to stabilize and prevent needle from penetrating membrane too deeply.
7. Make a puncture in the midline with a smooth motion.
8. Insert cannula at a 90° angle.
9. After entry into trachea, begin removing needle and advancing cannula into place.
10. Advance cannula into trachea at 45° angle with tip toward patient's feet.
11. Check airway placement by ventilating and watching chest rise as well as listening for air exchange at site and observing patient for improved color and respiratory condition.
12. Tape cannula securely in place.
13. Attach 3.0 mm ETT adaptor to end of catheter.
14. Administer high flow oxygen and ventilatory assistance with pediatric BVM via the ETT adaptor.
15. Continue to assess for adequate air exchange.
16. Allow for exhalation after each ventilation.
17. Provide update of patient's status to hospital and transport immediately.