Suprapubic Aspiration of Urine

Pre-Procedure

- The child should not have passed urine in the previous 60 minutes prior to the procedure. If so, feed the child and wait 30-60 minutes.
- If the child is stable it is preferrable to do the suprapubic aspiration prior to carrying out any other invasive procedures

General

- Suprapubic aspiration of urine is a simple and safe technique for obtaining an uncontaminated specimen of urine in children
- In stable children, perform first before other invasive procedures like bloods and lumbar puncture (in case the child voids)
- The procedure should be done quickly once you expose the genitals, so prepare everything before you undo the nappy
- Standard aseptic non touch technique with sterile gloves is required

Indications

- Children < 6 months of age who need a urine culture.
- Children < 1 year old who need a repeat urine culture because the previous urine culture is contaminated

Contraindications

- Urinated in the previous 1 hour
- Distended abdomen
• Known coagulopathy
• Skin infection over puncture site
• Urogenital abnormality

Preparation

Staff

• Doctor to carry out procedure
• Nurse to hold the child throughout procedure
• Assistant to catch urine

Equipment

SPA equipment

• 3ml or 5ml syringe
• Alcohol wipe
• 23 gauge needle
• Sterile gloves
• Urine container (yellow top)
• IV pressure pad (‘dot’)

Procedure

Medications

• Can give a small amount of sucrose to infants prior to the procedure

Positioning and technique

• Confirm the patient has not passed urine in the last 60 minutes. If they have then give a feed and wait for 30-60 minutes.
• The child lies supine in a frog leg position
• The nurse is to hold the child steady and restrain the legs in an extended position
• An assistant is to be ready to catch the urine with an open urine jar, if the patient passes urine

Check the bladder size /volume using one of the following 3 methods:

1. Curvilinear ultrasound probe to check bladder volume:
   Transverse view, depth (D) 2-3 cm or Transverse diameter (T) 3.5cm (recommended method) or
2. Bladder scanner (minimum 20ml) – scan 3 times to confirm, or
3. Gently percuss the bladder, fundus should be 1-2 finger breadths above the pubic symphysis (PS)

1. Wipe the skin from the pubis to umbilicus in a circular motion 5cm diameter with the alcohol wipe

2. Insert the needle perpendicular to the skin at 1-2cm superior to the pubic symphysis (the suprapubic crease level) at midline

3. Aspirate gently after the needle goes through the skin. Remember to aspirate as you insert, as well as when you withdraw the needle.

4. Advance the needle 2-3cm deep if needed (i.e. whole length of the 23G needle)
   • If urine is not obtained, do not remove the needle, but withdraw it to a subcutaneous layer and redirect it slightly more superior, and then more inferior to the pubic symphysis if needed
   • The procedure should be abandoned if still unsuccessful and an alternate method of urine collection should be considered
   • Further attempts at SPA should be at the discretion of the Senior Doctor on duty

Post-Procedure

Complications

All these complications are rare:

• Transient, gross or microscopic haematuria
• Intestinal perforation
• Bladder haematuria
• Abdominal wall abscess
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More

Tags

aspiration, bladder, culture, febrile, septic, spa, suprapubic, tap, urine, uti

References

- Porter FN. Percussion as aid to suprapubic aspiration. Archives of Disease in Childhood. 1988 August; 63(8): 998.

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