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Suprapubic Aspiration under Ultrasound Guidance

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Educational Video

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Introduction

Urinary Tract Infections (UTIs) are common diseases during infancy. Urine exam and urine culture are definite diagnostic methods.

Based on the latest American Academy of Pediatrics guideline, Catheterization or Suprapubic aspiration (SPA) are the methods of choice for urine culture and analysis.

Although, SPA is commonly performed blindly, there are times where clinicians choose to perform a pre-procedure ultrasound, in order to detect presence of sufficient urine.

The success rate of the later method is relatively better than the blind method, however it does not have sufficient success rate.

Based on previous studies, SPA equipped with Ultrasound guidance has a success rate of more than 90 -95%. In this video we will demonstrate how to perform SPA under Ultrasound guidance (SPA-GUS).

Prepare the following equipment before performing SPA-GUS

Lidocaine cream

Sterile 5 cc syringe

22 or 24 gauge needles
Sterile gloves
Anti-septic solution
A sterile urine container
Bandages

1. To start SPA_GUS, the site of needle insertion should be marked
2. Apply the Lidocaine cream (it would be better if the clinician use warm cream to prevent bladder stimulation and early urination)
3. Clean the skin by antiseptic solution
4. Apply enough warm sterile Gel on a high frequency Linear Ultrasound probe
5. Use a 22 or 24 gauge needle at a vertical angle of 10 to 20 degrees to the abdominal wall. Apply negative pressure to the syringe in order to aspirate.
6. To justify the orientation of the Ultrasound probe, place the linear high frequency probe (5-10 MHz), horizontally, 2-3 centimeters above the insertion point and place the probe marker towards the right side. Then, hover the probe caudally to visualize the bladder. The success rate will be raised if the distance between skin and bladder wall is less than, or equal to 1 centimeter.

Now you can see the real time suprapubic aspiration under guidance of Ultrasound.
After needle removal, the insertion site should be compressed for at least 2-3 minutes.

Conflict of Interest

Authors declare that they have no conflicts of interest.

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