Lumbar Puncture (for Paediatric)

Lumbar Punture (Paediatric)

Introduction

Lumbar puncture (LP) is a common diagnostic procedure performed in paediatric patients. The aim is to obtain cerebral spinal fluid (CSF) for examination or to measure the pressure inside the skull. In certain situation, release of CSF is a form of treatment and helps lower the pressure inside the skull.

Indication

- The most common reason for having a LP is to see if there is any infection of the lining around the brain (meningitis) or inflammation in the brain itself (encephalitis).
- Other reasons for needing a LP include suspected bleeding inside the skull, such as subarachnoid hemorrhage or complicated diseases that involve the metabolism of the brain or the spinal cord.
- To measure CSF pressure and in certain situations to relieve pressure in the brain as a result of excessive CSF.
- To inject medication into the spinal cannel, e.g. for treatment of oncology patients.

The Operation / Procedure

1. A nurse or health care assistant will assist your child to lie curled up on his/her side, with knee up to the chest.
2. Your child may be given medication for light sedation or local anesthesia if necessary.
3. After sterilizing the skin at the back, the doctor will insert a small needle into the space between two backbones (the lumbar vertebrae). A small amount (few ml) of CSF will be drained out and sent for tests.
4. The puncture wound will be sealed with dressing. This procedure usually lasts less than 30 minutes.

Before the Operation / Procedure

1. The doctor will explain the procedure and potential complications to the patient and their parents.
2. Parents have to make sure that they fully understand the explanation before the consent form is signed.
3. Your child should not take anything by mouth before 2-4 hours of the procedure. This is to avoid vomiting and aspiration pneumonia during and after the procedure.
4. Be encouraging and optimistic so as to allay your child's fears.

After the Operation / Procedure

1. Your child is advised to lie flat in bed for 6-12 hours, the resting hour ordered by your doctor usually.
2. In the absence of compelling evidence it is advised that the infant remain horizontal for 60 minutes after the procedure.
3. Drink more water to prevent headache. If your child has headache occurs, inform your nurses for painkillers.
4. If you find the dressing is wet, inform your nurses. New pressure dressing will be applied.
5. If sedation with narcotics was administered prior to procedure, continue oxygen saturation monitoring for 6 hours post procedure. Sedated infants should remain nil orally for 2 hours post procedure.

Patient's Label
Patient Name: _____
Hospital No:_____
Adm No/Episode No:_____

香港浸信會醫院
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Risk and Complications

1. Headache (40%) or local pain (40%) over the puncture site is relatively common but usually mild and transient.
2. Potential risk but with serious consequences such as sudden change in intra-cranial pressure, leakage of CSF, bleeding, bacterial infection, nerve root damage, and production of implantation dermoid, etc. The doctor will always perform the procedure very carefully to minimize the risk.

Alternative Treatment / Investigation

- Meningitis can be rapidly fatal or cause serious consequences such as deafness, hydrocephalus, cerebral palsy and epilepsy. Doctors have to make the correct diagnosis and start treatment promptly. LP is the safest and most effective means to make the diagnosis.
- The cerebrospinal fluid (CSF) will undergo biochemical tests and be examined under the microscope. The preliminary results will be available within a few hours. The CSF will also be sent for bacterial and/ or viral culture for identification of the organism and antibiotics sensitivity test.
- As CSF circulates around the central nervous system, detailed examinations of CSF can provide direct evidence to diagnose many diseases that involve the brain.

Disclaimer

This leaflet only provides general information pertaining to this operation / procedure. While common risks and complications are described, the list is not exhaustive, and the degree of risk could also vary between patients. Please contact your doctor for detailed information and specific enquiry.

Reference

Smart patient website by Hospital Authority: Lumbar Puncture (2007)

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Patient Name: _____
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Patient's Signature:_____ Date:_____