Drainage of interpleural fluid (pediatrics)

Indication

- evacuation of pleural fluid that causes respiratory distress;
- collection of pleural fluid for diagnostic purposes.

Execution

- pleural puncture is performed in children sitting in the 7th or 8th intercostal space in the posterior axillary line (roughly at the level of the tip of the scapula with the arm raised), or in the 5th or 6th intercostal space in the middle axillary line (on the right we inject one intercostal space above);
- adequate analgosedation / local anesthesia is a matter of course, preferably S_aO_2 monitoring during the procedure;
- we conduct the puncture continuously, perpendicular to the chest wall at the upper edge of the rib into the pleural cavity;
- after piercing the parietal pleura, the direction of the needle is bent tangentially towards the spine, bringing the tip of the needle closer to the parietal pleura;
- we put a three-way cock on the needle/catheter so that air cannot penetrate into the pleural cavity and at the same time it is possible to aspirate pleural fluid;
- after the end of the puncture, we quickly remove the needle and cover the puncture site with a compression bandage and perform a control lung X-ray.

Complications

- pneumothorax;
- hemothorax;
- infections;
- liver injury, spleen, lung, diaphragm, heart.

Differential diagnosis of pleural exudate and transudate

Transudate

- pH > 7.2;
- protein P/S (pleural fluid/serum) < 0.5;
- LDH P/S < 0.6;
- glucose (mmol/L) < 2.22;
- leukocytes < 1000.

Exudate

- pH < 7.2;
- proteins P/S > 0.5;
- LDH P/S > 0.6;
- glucose (mmol/l) > 2.22;
- leukocytes > 10,000.

Links

Source

- HAVRÁNEK, Jiří: *Drainage of the interpleural cavity*. (edited)

Related Articles

- Pleural effusion
- Hemothorax
- Chylothorax
- Empyema
- Fibrothorax
- Light's Criteria
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