Jugular oximetry

Oxygen saturation in the jugular bulb (SvjO2) is a reflection of **global cerebral oxygenation**, ev. perfusion when blood in the dominant bulb is monitored. However, choosing the optimal side is difficult. Blood from the cerebral cortex flows from the sinus sagitalis to the right lateral canal, while the subcortical areas are drained into the left lateral canal. In general, the **flow rate is greater in the right jugular bulb**. However, up to 15% differentiation between right and left saturation was detected. **The side with higher flow is determined by the rise of intracranial pressure after manual compression of the right or left *v. jugularis interna***.

Procedure for the introduction of the catheter

- We introduce the catheter retrograde on the side, where during compression there was a greater increase in pressure. With foical damage, we choose the side where the brain disability is greater.
- We position the patient as if we were ing CVK on the way of *v. jugularis interna*.
- We lead the injection from the same point, but in the opposite direction to the *processus mastoideus*.
- After the catheter is introduced, we re-introduce it until it hits, and then pull it out by about 1-1.5 cm.
- We check the position with an X-Ray image.

We can use classic catheters to take individual blood samples (we use **as thin as possible catheters** – 4 Fr) or special catheters with two optical channels to measure continuous saturation of bulbar blood. A special monitor is needed to monitor the SvjO2.

Physiological values

- **Normal $SvjO_2$ values** range from **60% to 80%**.
- Values **< 60%** indicate **hypoperfusion**, while **> 80%** are signs of **hyperemia** or permanent damage to brain cells that are no longer able to take oxygen.

Identification of the state of metabolism

Therefore, to identify the state of brain metabolism, it is advisable to still monitor the levels of lactate in the blood from the jugular bulb. **Even normal saturation values cannot exclude the presence of brain hypoxia** with regard to changes in cellular metabolism when brain tissue is affected.

Odkazy

Související články

- Cardiopulmonary monitoring
- Monitoring in neurointensive care
- Invasive blood pressure monitoring (pediatrics)

Zdroj

- HAVRÁNEK, Jiří: *Ostatní monitoring.*