Clinical signs of shock (pediatrics)

Resting tachycardia is characteristic (the heart rate must always be assessed according to the child's age and body temperature), a poorly palpable pulse on the small arteries of the leg, possibly cyanosis. Blood pressure can also be increased in a certain phase of shock, the cause being a pronounced α-mimetic reaction during the centralization of circulation. Especially in children, shock often occurs under the image of *low flow* , i.e. with an increased SVRI and a decrease in CI (this is typical, for example, of hypovolemic shock, burn trauma). We register hypotension when the effective circulating volume drops by 20-30% of the appropriate value. Physical examination shows cool, map-like skin and capillary refill time > 3 seconds. A valuable sign of the quality of organ perfusion is the previously mentioned monitoring of hourly diuresis, which drops into the zone of oligoanuria when the kidneys are hypoperfused.

In the initial stages of shock, RAL with hyperventilation is present, gradually transitioning to lactate MAC , when we clinically observe raspberry-red mucous membranes and also hyperventilation = Kussmaul breathing (if the patient still has enough energy), as a respiratory compensation of the metabolic disorder.

- Severe MAC with pH < 7.2 reduces cardiac contractility, lowers the threshold for the onset of arrhythmias , and causes dilation of arterioles and thus hypotension with compensatory tachycardia.
- In hypovolemic shock, signs of dehydration predominate , i.e. dry mucous membranes, absent tears during crying, reduced skin turgor, haloed and sunken eyes, sunken large fontanelle, non-palpable liver in newborns and infants.
- In cardiac failure, on the other hand, we can notice peripheral edema and the most typical symptom in children is hepatomegaly.
- As part of the CNS function, we record restlessness, behavioral change, impaired consciousness, which we objectify with the Glasgow coma scale.
- It is also important to determine and compare the peripheral temperature (measured on the dorsum of the leg) and the central temperature measured in the anus with a rectal sensor. A difference between central and peripheral temperature > 8 °C is a sign of shock circulation. A difference between central and peripheral temperature > 2 °C indicates increased α-mimetic activity.

Links

Source

- HAVRÁNEK, Jiří: *Shock* . (edited)

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