ANATOMO-PHYSIOLOGICAL CHARACTERISTICS OF URINE PRODUCTION AND URINARY SYSTEM IN CHILDREN

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Abstract: this thesis gives information about urine production of children. In infants and toddlers, the kidney is round in shape and has a lobed structure, so its surface is rough - this is a sign that the cortical part is not sufficiently developed at this age.

Key words: urine production, urinary system

The childlike structure of the kidneys is preserved until 2-3 years of age. In babies, the length of the kidneys is 4.2 cm, the weight is -12 g. At breast age, the size of the kidneys increases by 1.5 times, their weight reaches 37 g.

In early childhood, the average length of the kidneys is 7.9 cm, and the weight is 56 g. In teenagers, the length of the kidneys is 10.7 cm, the weight is 120 g. In babies, the thickness of the cortex part of the kidney is 2 mm, the thickness of the apical part is 8 mm, their ratio is 1:4. In adults, the thickness of the foreskin increases by 4 times compared to babies, and the thickness of the integument increases by 2 times.

Kidney growth is mainly observed in the first year of a child's life. During the period of 5-9 years of age, and mainly at the age of 16-19, the size of the kidneys increases due to the development of the cortex, which continues until the end of puberty; the growth of the pubic hair stops at the age of 12. The thickness of the renal cortex increases due to the increase in the length and width of the elastic tubules and the growth of the nephron outlet. In babies, the kidney lobes are wide and bulbous. Renal fibrosis capsule is clearly recognized at the age of 5 years of a child's life, at 10-14 years old it is the same as that of adults. In babies, the layer of the kidney membrane is thin, and as the child grows older, it gradually thickens.

The kidney does not have a membrane and begins to form after the first year of a child's life. Then it continues to gradually thicken. At the age of 40-50, the renal fatty membrane reaches its maximum size, it thins and sometimes disappears in old age.

The topography of the kidney changes with the age of the child due to the descent of the kidney. In infants, the upper part of the kidney corresponds to the upper part of the XII thoracic vertebra, and at the age of 1 year, it corresponds to the middle part of the body of the XII thoracic vertebra. In babies, the lower part of the kidney corresponds to the IV lumbar vertebra, at the age of 1 year it is 1/2 vertebra higher, which is due to the rapid growth of the spine. After 5-7 years, the location of the kidneys in relation to the spine approaches that of adults.

In infants, the upper border area and anterior medial surface of both kidneys (up to the renal hilum) touch the adrenal gland. Liver, cecum and worm-like tumor touch the right kidney. A small part of the black spleen is attached to the left kidney; Medial to the portal is the tail of the pancreas. In children, the cross-section of both kidneys runs parallel to the spine until 3-4 years of age, the renal gates are slightly forward. At the age of 5-6 years, the cross-section has a bent burn. As the human body grows, the position of the kidneys and the length of its arteries and veins change relatively. In babies, the "kidney legs" are relatively long, and the vessels are crooked: the beginning of the renal artery and the place where the vein flows are located above the renal portal. Later, the "kidney legs" take a horizontal position, after the age of 50, the length of the "kidney legs" increases due to the fact that the kidney descends slightly, and it is directed downwards.

In babies, the urethra has a bent tube. The length of the urethra is 5-7 cm. By the age of 4, its length increases to 15 cm. The muscular shell is weakly developed in children of early age. Urine bag is oval in babies, pear-shaped in the first year of the child's life. In the second period of childhood (8-12 years old), the urinary bladder becomes egg-shaped, and in adolescence, it has the appearance of an adult.

The size of the bladder in babies is 50-80 cubic cm. 180 ml of urine is stored at the age of 5, and 250 ml after the age of 12. In babies, the bottom of the bladder is not formed, the triangle of the bladder is located frontally and is part of the back wall of the bladder. The circular muscle layer on the wall of the bladder is not well developed, the mucous layer is well developed, folds are clearly visible.

In babies, the topography of the bladder is unique, its peak reaches halfway between the umbilicus and bladder symphysis, so at this age, the bladder does not touch the vagina in girls, and the rectum in boys. . The front wall of the bladder is outside the peritoneum, and it surrounds only the back wall. At the age of 1-3 years, the bottom of the bladder is located at the upper limit of the symphysis of the bladder. In the pre-adolescent age, the fundus of the sac is located at the level of the middle part of the symphysis of the sac. In adolescence, the fundus of the sac is located at the lower border of the symphysis of the sac. Later, the bottom of the bladder lowers depending on the condition of the urinary diaphragm muscle.

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