

DYNAMICS OF THE DEVELOPMENT OF ORGANOMETRIC PARAMETERS OF THE PROSTATE GLAND IN CHILDREN IN POSTNATAL ONTOGENESIS

Akhtam Radjabov

Candidate Of Medical Sciences

Associate Professor At The Department Of Anatomy And Clinical Anatomy,

Bukhara State Medical Institute, Uzbekistan

ABSTRACT: The article presents the results of studying the morphometric parameters of the prostate gland in children in early postnatal ontogenesis according to ultrasound data. On the basis of the data obtained, the growth rates of organometric parameters of the prostate gland of children in postnatal ontogenesis were established. The thickness of the organ from the neonatal period to the second period of childhood increases by 1.81 times, the width by 2.94 times, the length by 1.91 times, and the volume growing by 9.42 times. It was revealed that the highest growth rate of the anatomical parameters of the prostate gland is observed by the end of the second period of childhood: thickness - 25.3%, width - 62.1%, length - 28.97%, and the volume of the organ increases 1.5 times. Thus, the growth and development of morphometric parameters of the prostate gland is uneven and depends on the age characteristics of the organ.

KEYWORDS: Prostate gland, morphometric parameters, ultrasound examination

INTRODUCTION

It is known that the pathogenesis of the disease often depends on the morphological structure of the organ. So, it has been proven that the anatomical and topographic location of the prostate and its functions determine the main symptoms of organ diseases [8,10]. They are manifested by pain, dysuric and sexual syndromes. In this regard, the pathology of the prostate acquires not only medical, but also social significance. Since the pathology of the prostate largely depends on the morphology of the organ [4,5,7,9], there is no doubt it is of interest to study the characteristics of growth and development of morphometric parameters of an organ in terms of age.

THE MAIN FINDINGS AND RESULTS

Recently, in world medical practice, one of the main methods for studying the male reproductive system, including the prostate gland, is ultrasound, which allows you to determine the functional state, shape, anatomical parameters, as well as their anomalies, malformations

and pathologies. Analysis of literature sources [1,2,3,6] indicates that information on echographic morphometry of the prostate gland are limited to individual observations of a certain age and, as a rule, were obtained along the way when examining them for the presence of one or another pathology, as a result of which they are based on an insufficient number of observations for the statistical reliability of the results, are very average in nature and are given without taking into account age variability. From this point of view, age-related changes in the organ are of interest in terms of adjusting the age norm and taking it into account when assessing pathological processes.

Ultrasound examination was carried out in 226 children of the city of Bukhara and its districts at the age from newborn to 12 years on the basis of the Bukhara Regional Children's Hospital. The study was carried out on a SONOACER3-RUS apparatus with linear (7.5 MHz) and convex (3.5 MHz) transducers.

The study showed that the parameters of the morphometric parameters of the prostate gland increase with age. The thickness of the prostate gland in newborns averaged $8.9 + 0.32$ mm (from 5 mm to 11 mm). In boys of infancy, the thickness varied within 6-12 mm, on average it was equal to $9.4 + 0.25$ mm. In boys of early childhood, it is in the range from 8 to 16 mm, on average - $10.85 + 0.5$ mm. In children of the first period of childhood, the average thickness was $12.85 + 0.5$ (from 10 mm to 18 mm). The thickness of the prostate gland in boys of the second period of childhood ranged from 13 mm to 23 mm, on average $16.1 + 0.62$ mm.

It was found that the width of the prostate gland in newborns varied from 3 mm to 7 mm, averaging $4.8 + 0.22$ mm, and in infants it averaged $5.15 + 0.21$ mm (from 3 mm to 8 mm). In children of early childhood, this indicator varied from 6 to 10 mm, on average it was $7.2 + 0.31$ mm, and in boys of the first period of childhood it averaged $8.7 + 0.34$ mm (from 28 to 37 mm). The width of the prostate gland in children of the second period of childhood ranges from 11 to 19 mm, on average - $14.1 + 0.5$ mm.

It was revealed that the length of the prostate gland in newborns averaged $9.8 + 0.32$ mm (from 6 mm to 12 mm). In infants, it varied from 7 to 13 mm, on average it was $10.36 + 0.25$ mm. In the early period of childhood, the length is in the range from 9 to 16 mm, on average - $12.0 + 0.43$. In boys of the first period of childhood, the average length was $14.5 + 0.5$ (from 12 mm to 20 mm). The length of the prostate gland in boys of the second period of childhood ranged from 14 mm to 24 mm, on average $18.7 + 0.62$ mm.

The volume of the prostate gland in newborn boys varied from 0.05 cm³ to 0.42 cm³, averaging 0.24 ± 0.02 cm³, and in infants it averaged 0.29 ± 0.03 cm³ (from 0, 07 cm³ to 0.66 cm³). In boys of early childhood, this indicator varied from 0.25 to 1.1 cm³, on average it was equal to 0.54 ± 0.05 cm³, and in children of the first period of childhood it averaged 0.89 ± 0.08 cm³ (from 0, 5 to 1.8 cm³). The volume of the prostate gland in boys of the second period of childhood is in the range from 1.05 to 4.8 cm³, on average - 2.26 ± 0.23 cm³.

CONCLUSION

On the basis of the data obtained, the growth rates of organometric parameters of the prostate gland of children in postnatal ontogenesis were established. The thickness of the organ from the neonatal period to the second period of childhood increases by 1.81 times, the width by 2.94 times, the length by 1.91 times, and the volume growing by 9.42 times. It was revealed that the highest growth rate of the anatomical parameters of the prostate gland is observed by the end of the second period of childhood: thickness - 25.3%, width - 62.1%, length - 28.97%, and the volume of the organ increases 1.5 times.

Thus, the growth and development of morphometric parameters of the prostate gland is uneven and depends on the age characteristics of the organ.

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