



# Urogenital abnormalities in children conceived by assisted reproductive technologies



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## Background:

According to recent European and Russian monitoring hypospadias and cryptorchidism are the most frequent malformations of the urogenital system in children in the general population. Currently there is a lack of information about the impact of assisted reproductive technologies (ART) on the development of congenital malformations, including the urogenital system, although the presence of this abnormality could lead to male reproductive disorders.

## Aims:

To evaluate the frequency and structure of congenital malformations of the urogenital system in children conceived by ART.

## Materials and methods:

During the period from 2015 to 2018 we analyzed the data of 100 children conceived by ART (59 children from singleton pregnancies (group 1), and 49 children from multiple pregnancies (group 2)). In group 1 there were 34 (57.6%) boys; group 2 - 19 (46.3%) boys respectively. We analyzed anamnesis of life, family history, and congenital malformations of the urogenital system.

## Results:

The frequency of congenital malformations of the urogenital system in group 1 was 16.9% of cases; in group 2 - 21.0% of cases, they were represented by: hydronephrosis, renal asymmetry, incomplete doubling of the kidney, hypospadias, cryptorchidism. In group 1, cryptorchidism was diagnosed in 5.9% of cases; in group 2 - 21.0%, respectively. In group 1, hypospadias was diagnosed in 5.9% of cases; in group 2 this pathology was not registered. At the same time, 75% of boys had low birth weight (<2500 g). The average age of mothers in group 1 was  $33.4 \pm 1.6$ ; in group 2 -  $34.2 \pm 1.4$  years; in the Russian Federation -  $28.4 \pm 1.3$  years, ( $p < 0.05$ ). In 62% of cases there were patients with burdened obstetric and gynecological anamnesis.

## Conclusion:

The frequency of urogenital abnormalities in children conceived by ART doesn't exceed the population values. It is not associated with technology of ART, but it is induced by such factors as older age and the health of the mother, burdened obstetric and gynecological anamnesis, low birth weight.

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Fetal, neonatal endocrinology and metabolism (to include hypoglycaemia)

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