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PREVALENCE OF HYPOSPADIAS IN THE POPULATION OF CHILDREN IN NAMANGAN

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Abstract:

An analysis of available approaches to the management of patients with hypospadias was carried out, as well as some controversial issues regarding diagnosis in this category of patients. As available data show, surgical treatment of hypospadias has not yet led to the restoration of aesthetic and functional components, as a result of which the optimization of surgical treatment in modern conditions continues to remain relevant the task of pediatric reconstructive plastic surgery. Attention is paid to such areas as standardization of approaches to surgical treatment of hypospadias, unification of methods of urethroplasty and correction of penile curvature. Data from clinical studies on the use of various surgical techniques are presented.

Keywords: hypospadias, urethroplasty, penile malformation, pediatric urology, genital reconstruction.

THE AIM OF THE STUDY: to study the prevalence, improve the effectiveness of prevention and surgical treatment of hypospadias based on our own innovative developments in children of the Fergana Valley.

MATERIALS AND METHODS: **The object of the study** were 914 children with hypospadias in the Fergana Valley (in the Andijan region - 202, in the Namangan region - 467 and in the Fergana region 245) aged 0 - 18 years.

The subject of the study was venous and capillary blood, urine, analysis of subjective and objective data, assessment of risk factors, materials, digital rectal examination of the prostate gland, data from drug therapy and surgical treatment, as well as endoscopic and urodynamic equipment.

RESEARCH METHODS. To achieve the goal of the dissertation and fulfill the set tasks, subjective, physical, survey, clinical, biochemical, pharmacoepidemiological, instrumental, special (digital rectal, echographic, transrectal ultrasound, uroflowmetric, urethrocystoscopic, surgical) and statistical methods were used.

RESULTS AND DISCUSSIONS: The prevalence of hypospadias in the population of children in Namangan was analyzed. The data in this regard obtained in our study are presented in Table 1 and Fig. 1.

In the population of children aged 0–18 years in Namangan, as can be seen from Table 1 and Fig. 1, the incidence of glans hypospadias (GH) varies depending on age and is: 4.2% at the age of 0–1 years, 78.3% at the age of 2–4 years, 10.6% at the age of 5–9 years, 5.3% at the age of 10–14 years, and 1.5% at the age of 15–18 years. Its high prevalence is observed in the group of children aged 2–4 years and, in general, depending on age, its incidence rate varies by 77.0% or slightly less by 39 times [Xi2 = 20.09; Df = 8; P < 0.05].

Comparative frequency of prevalence of various forms of glans hypospadias in children of Namangan
Table No. 1

Age (years)	Prevalence of glans hypospadias							
	PCH (n=8)		DSH (n=230)		MSH (n=25)		Total CH (n=263)	
	N	%	N	%	N	%	N	%
0 – 1	1	9,1	8	72,7	2	18,2	11	4,2
2 – 4	4	1,9	189	91,7	13	6,3	206	78,3
5 – 9	2	7,1	20	71,4	6	21,4	28	10,6
10 – 14	1	7,1	11	78,6	2	14,3	14	5,3
15 - 18	0	0,0	2	50,0	2	50,0	4	1,5
0-18	**8**	**3,0**	**230**	**87,5**	**25**	**9,5**	**263**	**100,00**
Statistics χ^2=20,09: Df=8: P <0,05								

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Note: • CH – capitate hypospadias;
• PCH – peri-coronal form of capitate hypospadias;
• DSH – distal stem form of capitate hypospadias;
• MSH – middle stem form of capitate hypospadias.

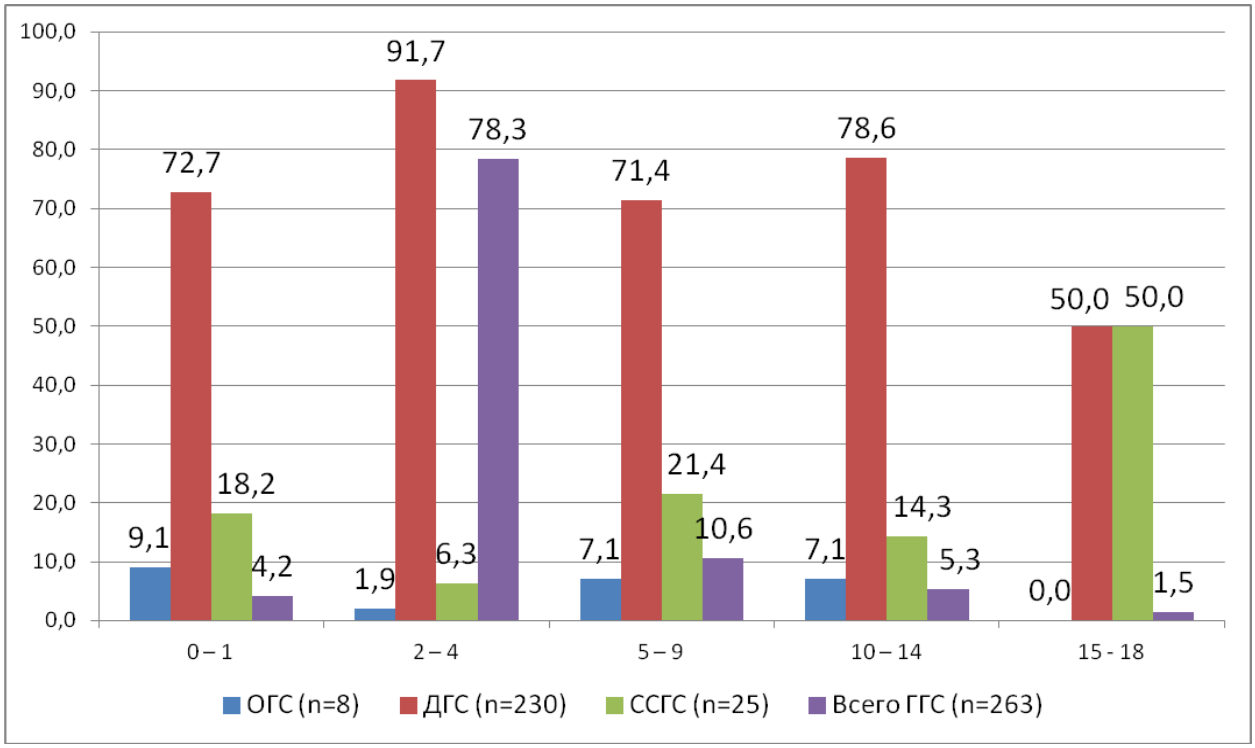

Fig. 1. Epidemiological characteristics of the frequency of detection of various forms of hypospadias in the population of children in Namangan

In the examined population of children aged 0–18 years, individual forms of HGS were characterized by the following prevalence levels: peri-coronal form of capitate hypospadias (PCH) 3.0%, distal stem form of capitate hypospadias (DSH) 87.5%, and middle stem form of capitate hypospadias (MSH) 9.5%.

In different age ranges of the examined patients, HGS is characterized by the following prevalence: 9.1% in 0–1 years, 1.9% in 2–4 years, 7.1% in 5–9 years, 7.1% in 10–14 years, and 0.00% in 15–18 years. Depending on age, its prevalence varies by 9.1%, and the detection rate of this form of HGS is high in children aged 0–1 years.

Furthermore, the prevalence of the distal stem form of capitate hypospadias depending on the age of children is determined with a difference of 41.7% or 1.8 times. The frequency of its prevalence in individual age groups of children in Namangan is: 0-1 years 72.7%, 2-4 years 91.7%, 5-9 years 71.4%, 10-14 years 78.6% and 15-18 years 50.0%. A comparatively high frequency occurs in the group of children 2-4 years old (91.7%).

The results of the study show (Table 2 and Fig. 2) that, depending on the examined children, the frequency of detection of the middle stem form of capitate hypospadias is: in the age group of 0-1 years 18.2%, in 2-4 years 6.3%, in 5-9 years 21.4%, in 10-14 years 14.3% and in 15-18 years 50.0%. Depending on age, the prevalence of SGHS increases by 43.7% or 68.3 times. Its high frequency is observed in children aged 15-18 years.

Abstract: HGS is determined in the population of children with a high frequency of Namangan in the age group of 2-4 years (78.3%), DGS (87.5%) and SSGS (9.5%) are recorded with a relatively high frequency.

In all age groups, the peri-coronal form of glans hypospadias is determined with a lower frequency of statistical significance.

Table 2 and Fig. 2 present the obtained data on the epidemiological characteristics of the prevalence of proximal hypospadias (PHS) in children in Namangan.

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From the data presented it follows that PGS in different age groups of children in this region is characterized by the following prevalence features: 6.1% at 0-1 years, 58.3% at 2-4 years, 25.8% at 5-9 years, 6.1% at 10-14 years and 3.7% at 15-18 years. Depending on age, the frequency of detection of PGS varies by 54.6% or 19 times. High levels of detection occur in the age ranges of children 2-4 and 5-9 years [Хи2 = 21.03; Df = 12; P < 0.05].

Comparative frequency of prevalence of various forms of proximal hypospadias in children of Namangan
Table No. 2

Age (years)	Prevalence of proximal hypospadias									
	PSGS (n=46)		TSGS (n=44)		MHS (n=38)		Pr GS (n=35)		Total PHS (n=163)	
	N	%	N	%	N	%	N	%	N	%
0 – 1	3	30,0	2	20,0	2	20,0	3	30,0	**10**	6,1
2 – 4	28	29,5	24	25,3	22	23,2	21	22,1	**95**	58,3
5 – 9	10	23,8	13	31,0	11	26,2	8	19,0	**42**	25,8
10 – 14	3	30,0	3	30,0	2	20,0	2	20,0	**10**	6,1
15 -18	2	33,3	2	33,3	1	16,7	1	16,7	**6**	3,7
0 – 18	**46**	**28,2**	**44**	**27,0**	**38**	**23,3**	**35**	**21,5**	**163**	**100**
Statistics χ^2=21,03; Df=12; P <0,05										

Note:
- PS GS – proximal stem hypospadias;
- TSGS – trunk-scrotal proximal hypospadias;
- MHS – scrotal proximal hypospadias;
- Pr GS – perineal proximal hypospadias;
- PHS – proximal hypospadias.

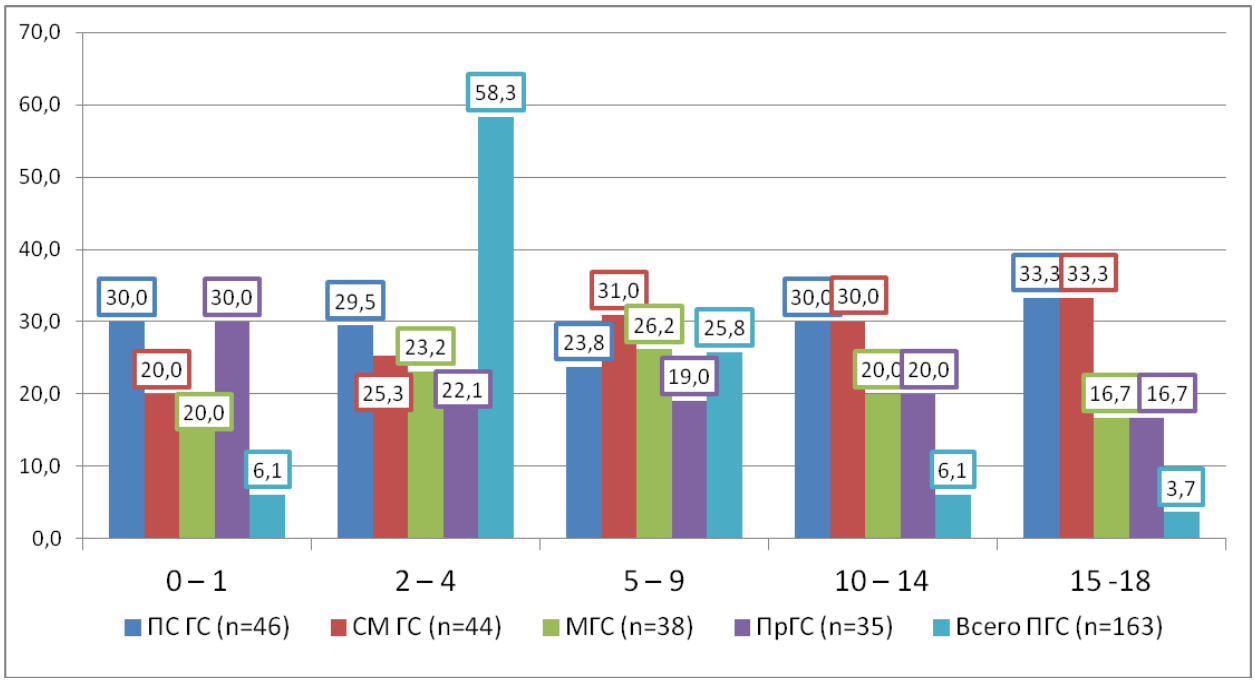

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Fig. 2. Epidemiological characteristics of the frequency of detection of PHS in the population of children in Namangan.

There are 4 forms of PHS, based on specific epidemiological characteristics: proximal trunk hypospadias (PSHS), trunk-scrotal proximal hypospadias (SMHS), scrotal proximal hypospadias (SPH), perineal proximal hypospadias (PrHS) and proximal hypospadias (PHS).

The prevalence of PSGS and SMGS is: at 0-1 years old 30.0% and 20.0% (P< 0.05), at 2-4 years old 29.5% and 25.3% (P> 0.05), at 5-9 years old 23.8% and 31.0% (P< 0.05), at 10-14 years old 30.0% and 30.0%, at 15-18 years old 33.3% and 33.3% and at 0-18 years old 28.2% and 27.0% (P> 0.05), respectively.

MGS and PrGS were detected with a comparatively lower frequency, characterized by determination in the following levels in different age groups of the examined: at 0-1 years by 20.0% and 30.0% (P< 0.05), at 2-4 years by 23.2% and 22.1% (P> 0.05), at 5-9 years by 2.6% and 19.0% (P< 0.05), at 10-14 years by 20.0% and 20.0%, at 15-18 years by 16.7% and 16.7%, and at 0-18 years by 23.3% and 21.5% (P> 0.05).

Thus, in the group of examined children from Namangan with hypospadias, PSGS and SMGS are detected with a higher frequency compared to scrotal proximal hypospadias.

Table 3 and Fig. 3 present the results of the analysis of the obtained results on the comparative frequency of prevalence of individual forms of congenital curvature of the penis (CCP) in children of Namangan.

Comparative frequency of prevalence of individual forms of congenital curvatures of the penis in children of Namangan
Table No. 3

Age (years)	Prevalence of congenital penile curvatures									
	MCP (n=18)		VIPChr (n=8)		UWCdsu дсу (n=7)		PenoTPPF (n=8)		HIV (total) (n=41)	
	N	%	N	%	N	%	N	%	N	%
0 – 1	1	5,6	1	12,5	1	14,3	0	0,0	3	7,3
2 – 4	9	50,0	4	50,0	3	42,9	4	50,0	20	48,8
5 – 9	5	27,8	2	25,0	2	28,6	3	37,5	12	29,3
10 – 14	2	11,1	1	12,5	1	14,3	1	12,5	5	12,2
15 -18	1	5,6	0	0,0	0	0,0	0	0,0	1	2,4
0 - 18	18	43,9	8	19,5	7	17,1	8	19,5	41	100,0
Statistics χ^2=3,052; Df=12: P >0,05										

Note: •MCP – minimal congenital penile curvature;
- VIPChr – penile rotation;
- UWCdsu – urethral wall dysplasia;
- PenoTPPF – penoscrotal transposition of proscrotal and perineal forms.

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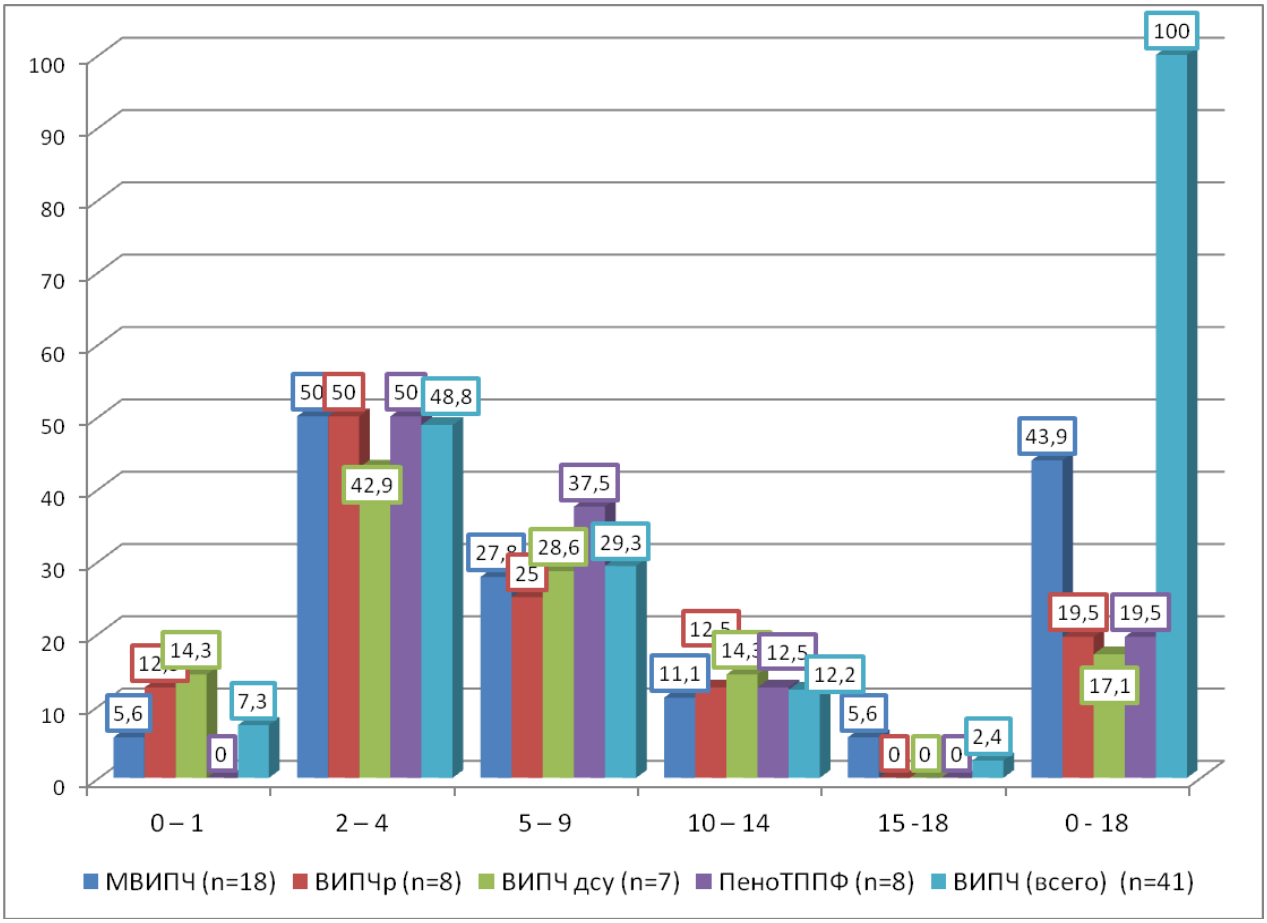

Fig. 3. Epidemiological characteristics of HIV and its various forms in the population of children in Namangan

It was noted that MHIPV and HIVPr in the age group of children 0-18 years are observed with a prevalence rate of 43.9% and 19.5% (P< 0.01), respectively. Depending on age, their detection varied up to 44% and 50% (P< 0.05) and were determined at the following levels: at 0-1 years by 5.6% and 12.5% (P< 0.01), at 2-4 years by 50.0% and 50.0%, at 5-9 years by 27.8% and 25.0% (P> 0.05), at 10-14 years by 11.1% and 12.5% (P> 0.05), at 15-18 by 5.6% and 0.0% (P< 0.01).

Other forms of HIV, HIVDsU and Peno TPPF in individual age groups of the studied population were characterized by the following prevalence, respectively: at 0–1 years old by 14.3% and 0.0% (P< 0.01), at 2–4 years old by 42.9% and 50.0% (P< 0.05), at 5–9 years old by 28.6% and 37.5% (P< 0.05), at 10–14 years old by 14.3% and 12.0% (P> 0.05), at 15–18 years old by 17.1% and 19.5% (P> 0.05).

In general, summarizing the noted epidemiological trends, it can be concluded that the prevalence of HIV in the population of children in Namangan, depending on age, is noted with a difference of 26.9%. The highest frequency of detection occurs at the age of 2-4 years (48.8%) and 5-9 years (29.3%). Significantly low prevalence rates are observed at the age of 0-1 years 7.3%, 10-14 years 12.2% and 15-18 years 2.4% [Xi2 = 3.052; Df = 12; P> 0.05].

Taking these characteristics into account is important when planning and implementing prognostic and preventive programs for HIV infection in children in this region.

CONCLUSION

In the population of children aged 0-18 in the Fergana Valley ["Namangan + Fergana + Andijan"] all risk factors (increased number of pregnancies, hormone intake, environmental factors, risk of miscarriage, toxicosis, bleeding, nephropathy, previous infectious respiratory diseases, young or > 40 years of age, co-incidence, twins, low body weight, presence of congenital developmental pathologies, pathology of testicular development, malformations of the urethra),

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both "maternal" (64.4%) and "Children's" (35.6) are determined with high prevalence levels.

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