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200 例先天性尿道下裂患儿的临床特征及其危险因素分析 *

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摘要 目的:研究 200 例先天性尿道下裂患儿的临床特征及其危险因素。**方法:**选择 2016 年 1 月~2019 年 12 月我院收治的先天性尿道下裂患儿 200 例进行研究,记作观察组,另取同期于我院接受体检的健康儿童 200 例作为对照组,分析观察组患儿的临床分型情况,比较两组儿童父母的一般情况、儿童出生情况,并采用多因素 Logistic 回归分析先天性尿道下裂的影响因素。**结果:**200 例先天性尿道下裂患儿临床分型按照占比从高到低的顺序依次为阴茎体型 46.50%(93/200)、阴茎阴囊型 28.00%(56/200)、冠状沟型 17.00%(34/200)、阴囊型 4.50%(9/200)、阴茎头型 3.00%(6/200)、会阴型 1.00%(2/200)。观察组父亲生活性接触化学物、母亲流产史、母亲孕期饮食缺乏肉类、母亲孕期饮食缺乏鱼类、母亲孕期应用保胎药、母亲孕期吸烟或被动吸烟人数占比均高于对照组(均 $P<0.05$)。观察组早产、低出生体重人数占比高于对照组(均 $P<0.05$)。经多因素 Logistic 回归分析显示,父亲生活性接触化学物、母亲流产史、母亲孕期饮食缺乏肉类、母亲孕期饮食缺乏鱼类、母亲孕期应用保胎药、母亲孕期吸烟或被动吸烟、早产、低出生体重均是先天性尿道下裂的危险因素(均 $P<0.05$)。**结论:**先天性尿道下裂患儿临床分型以阴茎体型为主,双亲不良生活习惯、化学物接触史以及早产、低出生体重均是先天性尿道下裂的危险因素,值得临床重点关注。

关键词:先天性尿道下裂;临床特征;危险因素;多因素 Logistic 回归分析

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Clinical Characteristics and Risk Factors Analysis of 200 Children with Congenital Hypospadias*

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ABSTRACT Objective: To study the clinical characteristics and risk factors of 200 children with congenital hypospadias. **Methods:** 200 cases of children with congenital hypospadias who were admitted in our hospital from January 2016 to December 2019 were included in the study, and they were recorded as observation group. In addition, 200 healthy children were taken as the control group. The clinical types of children in observation group was analyzed. The general situation of parents and the birth of children in the two groups were compared, and the influence factors of congenital hypospadias were analyzed by multivariate Logistic regression. **Results:** The clinical types of children with congenital hypospadias were penis type 46.50%(93/200), penis scrotum type 28.00%(56/200), coronal sulcus type 17.00%(34/200), scrotum type 4.50%(9/200), penile head type 3.00%(6/200) and perineal type 1.00%(2/200) of perineum in order of proportion from high to low. In the observation group, the proportion of father lived with chemicals, the history of maternal abortion, the mother's diet was deficient in meat during pregnancy, mother's diet was deficient in fish during pregnancy, the mother should take anti-pregnancy medicine during pregnancy, mother's smoking or passive smoking during pregnancy were significantly higher than those in the control group (all $P<0.05$). The proportion of preterm birth and low birth weight in the observation group were significantly higher than those in the control group (all $P<0.05$). By multivariate Logistic regression analysis showed, father lived with chemicals, history of maternal abortion, mother's diet was deficient in meat during pregnancy, mother's diet was deficient in fish during pregnancy, mother should take anti-pregnancy medicine during pregnancy, mother's smoking or passive smoking during pregnancy, premature birth, and low birth weight were all independent risk factors for congenital hypospadias (all $P<0.05$). **Conclusion:** The main clinical types of children with congenital hypospadias were penis type. The poor living habits, chemical exposure, premature birth and low birth weight are the risk factors of congenital hypospadias, they are worthy of clinical attention.

Key words: Congenital hypospadias; Clinical characteristics; Risk factors; Multivariate logistic regression analysis

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前言

先天性尿道下裂主要是指因尿道发育不完善所引起的尿道开口未达到正常部位的一种阴茎畸形,属于临床上较为常见的一种泌尿生殖系统先天畸形^[1-3]。迄今为止,关于先天性尿道下裂的具体病因尚未完全明确,其发病率约为0.4‰~8.2‰,不但会给患儿造成严重的身心损伤,同时会给患儿家庭造成极大的精神压力以及经济负担^[4-6]。相关研究报道表明,从上世纪70年代开始至今,先天性尿道下裂的发病率正呈逐年升高趋势,已成为严重威胁儿童生命健康安全的疾病之一^[7-9]。然而,目前国内外关于先天性尿道下裂的流行病学调查以及危险因素较少,尚且存在一定的争议,由此可见,积极开展该类研究显得尤为重要。鉴于此,本文通过研究200例先天性尿道下裂患儿的临床特征及其危险因素,旨在为先天性尿道下裂的预防以及病因学研究提供参考依据,现作以下报道。

1 资料与方法

1.1 一般资料

选择2016年1月~2019年12月我院收治的先天性尿道下裂患儿200例进行研究,记作观察组。纳入标准:(1)所有患儿均与国际疾病分类(ICD-10)中所制定的相关诊断标准相符^[10];(2)年龄≤8岁;(3)临床病历资料无缺失;(4)均为男性。排除标准:(1)合并其他泌尿系统疾病者;(2)合并先天性心脏病者;(3)合并其他先天畸形者。观察组年龄5个月~8岁,平均年龄

(3.62±1.17)岁。另取同期于我院接受体检的健康儿童200例作为对照组,年龄4个月~8岁,平均年龄(3.78±1.04)岁。两组年龄比较差异无统计学意义($P>0.05$),均衡可比。所有受试者家属均在知情同意书上签字,并获批于医院伦理委员会。

1.2 研究方法

(1)采用我院自制的儿童父母一般情况调查表对所有受试者父母的一般情况进行统计、记录,主要内容有父亲接触农药、父亲生活性接触化学物、父亲职业性接触化学物、母亲接触农药、母亲流产史、母亲孕期饮食缺乏肉类、母亲孕期饮食缺乏鱼类、母亲孕期应用保胎药、母亲妊娠期高血压、母亲孕期吸烟或被动吸烟。(2)分析所有受试者的早产、低出生体重以及宫内窘迫发生情况。

1.3 统计学方法

数据的分析借助SPSS20.0软件完成,计数资料和(或)计量资料以[n(%)]和(或)($\bar{x} \pm s$)表示,予以 χ^2 和(或)t检验。先天性尿道下裂的影响因素予以多因素Logistic回归分析。 $P<0.05$ 表示差异具有统计学意义。

2 结果

2.1 200例先天性尿道下裂患儿临床分型情况分析

200例先天性尿道下裂患儿临床分型按照占比从高到低的顺序依次为阴茎体型46.50%(93/200)、阴茎阴囊型28.00%(56/200)、冠状沟型17.00%(34/200)、阴囊型4.50%(9/200)、阴茎头型3.00%(6/200)、会阴型1.00%(2/200),见表1。

表1 200例先天性尿道下裂患儿临床分型情况分析

Table 1 Analysis of clinical types of 200 children with congenital hypospadias

Types	n	Accounted
Penile head type	6	3.00%
Coronal sulcus type	34	17.00%
Penis type	93	46.50%
Penis scrotum type	56	28.00%
Scrotum type	9	4.50%
Perineal type	2	1.00%

2.2 两组儿童父母一般情况对比

观察组父亲生活性接触化学物、母亲流产史、母亲孕期饮食缺乏肉类、母亲孕期饮食缺乏鱼类、母亲孕期应用保胎药、母亲孕期吸烟或被动吸烟人数占比均高于对照组($P<0.05$),见表2。

2.3 两组儿童出生情况对比

观察组早产、低出生体重人数占比高于对照组($P<0.05$),两组宫内窘迫人数占比比较无统计学差异($P>0.05$),见表3。

2.4 先天性尿道下裂的多因素 Logistic 回归分析

以先天性尿道下裂为因变量,赋值为先天性尿道下裂=1,非先天性尿道下裂=0,父亲生活性接触化学物、母亲流产史、母亲孕期饮食缺乏肉类、母亲孕期饮食缺乏鱼类、母亲孕期应用保胎药、母亲孕期吸烟或被动吸烟、早产、低出生体重为自变量,赋值情况均为是=1,否=0。经多因素Logistic回归分析显

示,父亲生活性接触化学物、母亲流产史、母亲孕期饮食缺乏肉类、母亲孕期饮食缺乏鱼类、母亲孕期应用保胎药、母亲孕期吸烟或被动吸烟、早产、低出生体重均是先天性尿道下裂的危险因素($P<0.05$),见表4。

3 讨论

先天性尿道下裂属于男性胎儿常见生殖器畸形,主要和基因、内分泌以及环境等多种因素密切相关^[11-13]。先天性尿道下裂患儿无法进行正常的排尿,部分患儿甚至在成年后无法完成性交,不但对其生理造成了危害,甚至可能引发心理焦虑、抑郁等负性情绪^[14-16]。目前,临床上针对先天性尿道下裂的治疗首先实施矫正下曲阴茎,然而针对严重阴茎下弯尿道下裂者应谨慎实施该术式,术中需保证尿道宽度,包绕支架缝合形成尿道,临床的治愈率较高,但手术时机和临床治疗效果密切相关^[17-19]。

表 2 两组儿童父母一般情况对比 [例(%)]

Table 2 Comparison of the general situation of the parents of the two groups [n(%)]

Projects	Observation group (n=200)	Control group (n=200)	χ^2	P
Father exposed to pesticides	81(40.50)	74(37.00)	0.516	0.472
The fathers lived with chemicals	44(22.00)	25(12.50)	6.323	0.012
Occupational exposure to chemicals	27(13.50)	21(10.50)	0.852	0.356
Mother's exposure to pesticides	41(20.50)	35(17.50)	0.585	0.444
History of maternal abortion	46(23.00)	30(15.00)	4.159	0.041
The mother's diet was deficient in meat during pregnancy	43(21.50)	24(12.00)	6.472	0.011
The mother's diet was deficient in fish during pregnancy	31(15.50)	16(8.00)	5.425	0.020
The mother should take anti-pregnancy medicine during pregnancy	89(44.50)	65(32.50)	6.082	0.014
The mother has high blood pressure during pregnancy	27(13.50)	20(10.00)	1.181	0.277
Mother's smoking or passive smoking during pregnancy	74(37.00)	32(16.00)	22.642	0.000

表 3 两组儿童出生情况对比 [例(%)]

Table 3 Comparison of the two groups of children at birth [n(%)]

Groups	n	Preterm birth	Low birth weight	Intrauterine distress
Observation group	200	33(16.50)	94(47.00)	14(7.00)
Control group	200	12(6.00)	71(35.50)	11(5.50)
χ^2	-	11.042	5.457	0.384
P	-	0.001	0.019	0.535

表 4 先天性尿道下裂的多因素 Logistic 回归分析

Table 4 Multivariate Logistic regression analysis of congenital hypospadias

Influence factors	β	Wald 2	OR	95%CI	P
The father lived with chemicals	1.034	7.293	2.804	1.497~5.902	0.000
History of maternal abortion	1.842	6.203	1.752	1.044~6.230	0.000
The mother's diet was deficient in meat during pregnancy	0.945	5.813	5.203	2.145~7.484	0.000
The mother's diet was deficient in fish during pregnancy	1.405	6.209	4.925	2.019~8.942	0.000
The mother should take anti-pregnancy medicine during pregnancy	2.842	8.744	7.105	3.152~10.844	0.000
Mother's smoking or passive smoking during pregnancy	2.104	1.974	15.023	4.203~28.384	0.036
Preterm birth	3.041	3.972	1.044	0.945~1.592	0.002
Low birth weight	0.847	1.203	2.044	1.155~6.982	0.045

本研究结果发现 200 例先天性尿道下裂患儿临床分型按照占比从高到低的顺序依次为阴茎体型 46.50%、阴茎阴囊型 28.00%、冠状沟型 17.00%、4.50%、阴茎头型 3.00%、会阴型 1.00%。说明了先天性尿道下裂患儿的临床类型以阴茎体型为主。此外,观察组父亲生活性接触化学物、母亲流产史、母亲孕期饮食缺乏肉类、母亲孕期饮食缺乏鱼类、母亲孕期应用保胎药、母亲孕期吸烟或被动吸烟人数占比均高于对照组,且发现父亲生活性接触化学物、母亲流产史、母亲孕期饮食缺乏肉类、

母亲孕期饮食缺乏鱼类、母亲孕期应用保胎药、母亲孕期吸烟或被动吸烟均是先天性尿道下裂的危险因素。分析原因,可能是长期生活于危险废物处理站环境下的男性后代罹患尿道下裂的风险明显更高^[20],而在母亲怀孕后,父亲将承担更多的家庭责任,从而促使其接触生活中化学污染物的风险更高,化学污染物间接影响母亲,进一步促进了尿道下裂的发生^[21-23]。母亲孕期饮食缺乏肉类和鱼类会引起胎盘形成过程中所必需的营养素的缺乏,从而增加了器官、组织发育分化受阻的风险,进一

步导致了畸形的发生;此外,母亲于孕期若以素食为主,会增加外源性雌激素的摄入,继而使得尿道下裂发生率增加^[24-26]。母亲孕期应用保胎药会对雄性激素产生拮抗作用,最终影响胎儿的泌尿生殖系统正常发育。母亲孕期吸烟或被动吸烟是目前国内外所公认的会增加胎儿先天性畸形发生风险的重要因素^[27-29]。由此,我们在临床实际工作中应为孕妇制定合理的膳食方案,适当增加鱼类和肉类的摄入;同时尽量减少孕期保胎药的使用,禁止孕妇吸烟或吸二手烟^[30]。另外,观察组早产、低出生体重人数占比高于对照组,且经多因素 Logistic 回归分析显示,早产、低出生体重均是先天性尿道下裂的危险因素,其中主要原因可能在于早产以及低出生体重胎儿的生殖系统发育受限明显,继而增加了先天性尿道下裂的几率。

综上所述,先天性尿道下裂患儿的临床类型阴茎体型的占比最高,双亲不良生活习惯、化学物接触史以及早产、低出生体重均是先天性尿道下裂的危险因素,在临床工作中应针对上述因素制定相关干预措施,以期达到降低先天性尿道下裂发生的风险。

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