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· 临床研究 ·

1 865例儿童及青少年多生牙的临床特征与手术麻醉方式选择的相关性分析

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【摘要】 目的 回顾分析4~18岁患者多生牙流行病学特点与手术麻醉方式选择相关影响因素, 以为儿童及青少年多生牙拔除术的麻醉方案选择提供参考依据。方法 本研究为回顾性研究, 已获得医院伦理委员会批准。基于临床电子病历系统及锥形束CT(cone beam CT, CBCT)资料回顾性分析2019年8月至2021年7月在第四军医大学口腔医院接受多生牙拔除术的4~18岁患者2 210例, 纳入标准: ①年龄4~18岁; ②美国麻醉医师协会(American Society of Anesthesiologists, ASA)麻醉分级I~II级; ③具有完整的口腔及麻醉病历记录和相关影像资料。排除标准: ①病历资料不完整、影像学资料不清楚者; ②ASA分级在II级以上的患者。收集患者的性别、年龄、多生牙的数量、上下颌位置、前后牙弓定位、萌出程度、生长方向, 患者的预约原因、焦虑水平、配合程度、麻醉方式等相关信息并进行统计分析。结果 纳入患者1 865例, 年龄(8.9±3.2)岁, 男性患者(71.37%, 1 331例)多于女性(28.63%, 534例)($P < 0.001$), 性别比例为2.49: 1。大多数多生牙为单发(75.97%, 1 417/1 865), 多位于上颌骨(97.2%, 1 812/1 865)和前牙区(94.2%, 1 757/1 865), 正置位多见(77.3%, 1 442/1 865)。多生牙萌出患者以主动就诊为主(97.67%, 335/343); 位于颌骨埋伏和鼻底埋伏的多生牙患者以科室转诊为主, 占比94.38%(1 361/1 442)和90.00%(72/80)($\chi^2=1363.24, P < 0.001$)。麻醉方式选择上, 接受N₂O镇静辅助局部麻醉或神经阻滞麻醉的比例最高, 占比38.07%(710/1 865), 其次为接受局部麻醉, 占比35.23%(657/1 865), 接受咪达唑仑静脉镇静辅助局部麻醉或神经阻滞麻醉以及全身麻醉的比例较少, 占比分别为20.86%(389/1 865)和5.84%(109/1 865)。年龄13~18岁、多生牙位于下颌、后牙区、无焦虑患者接受局部麻醉的比例最高($P < 0.001$), 而多生牙位于鼻底埋伏牙(50%)、重度焦虑(94.12%)、配合度差(98.18%)的患者接受全身麻醉的比例最高($P < 0.001$)。多生牙拔除术在术中和术后手术相关并发症发生率上无显著性差异($P=0.35$), 但接受全身麻醉的患者发生麻醉相关并发症(如: 头晕、呛咳、呼吸抑制等)占比3.81%, 较局部麻醉并发症多($P=0.006$)。结论 4~18岁患者群体中男性多生牙发生率高于女性, 且多生牙以单颗牙为主, 集中在上颌前牙区, 并以正中位多见; 已萌出的患者多为主动就诊, 而颌骨埋伏和鼻底埋伏多生牙以科室转诊多见。焦虑程度较高、配合程度较差、低龄、多生牙较多、位置较高手术难度较大的患者更倾向于选择全身麻醉。

【关键词】 多生牙; 拔牙; 麻醉; 儿童; 青少年; 口腔科; 口腔治疗

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Analysis of the correlation between the clinical features of 1 865 children and adolescents with supernumerary teeth and the selection of anesthesia methods ZHANG Yaqui, FENG Caihua, LIANG Lirong, LIU Fei, WU Long, WANG Peijuan, GAO Zhenzhen, LIU Bing. State Key Laboratory of Oral & Maxillofacial Reconstruction and Regenera-



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【Abstract】 Objective To retrospectively analyze the epidemiological characteristics of supernumerary teeth in patients aged 4 - 18 years old and the influencing factors on the selection of anesthesia methods, and to provide a reference for the selection of anesthesia plans for children and adolescents with supernumerary teeth. **Methods** This study is a retrospective study approved by the Institutional Ethics Committee. Based on clinical electronic medical record system and cone beam CT (CBCT) data, a retrospective analysis was conducted on 2 210 patients 4 - 18 years of age who underwent supernumerary tooth extraction at the School of Stomatology, Fourth Military Medical University from August 2019 to July 2021. Inclusion criteria: ① Age 4 - 18 years old; and ② The American Society of Anesthesiologists (ASA) classifies anesthesia into grades I-II; and ③ Have complete oral and anesthesia case records and relevant imaging data. Exclusion criteria: ① Incomplete medical records or unclear imaging data; and ② Patients with ASA grade II or above. Patients' gender and age, the number of supernumerary teeth, arch, location, orientation, eruption status, reason for appointment, anxiety level, degree of cooperation, anesthesia method, and other relevant information were collected and statistically analyzed. **Results** A total of 1 865 eligible patients were included, with an average age of (8.9±3.2) years old. There were more male patients (71.37%, 1 331 cases) than female patients (28.63%, 534 cases) ($P < 0.001$), with a gender ratio of 2.49:1. The majority of supernumerary teeth were single (75.97%, 1 417/1 865), primarily located in the maxilla (97.2%, 1 812/1 865) and the anterior dental region (94.2%, 1 757/1 865), and in a centric position (77.3%, 1 442/1 865). The majority of patients with erupted supernumerary teeth were active in seeking treatment (97.67%, 335/343). Patients with supernumerary teeth located in the maxilla and mandible bones, as well as in the nasal floor, were mainly referred to the department for diagnosis, accounting for 94.38%(1 361/1 442) and 90.00% (72/80) ($\chi^2=1 363.24$, $P < 0.001$), respectively. Regarding anesthesia methods, the largest proportion of patients received nitrous oxide sedation-assisted local anesthesia or nerve block anesthesia, accounting for 38.07% (710/1 865), followed by local anesthesia, accounting for 35.23% (657/1 865). The proportion of patients receiving midazolam intravenous sedation with local anesthesia or nerve block anesthesia and general anesthesia was relatively small, accounting for 20.86% (389/1 865) and 5.84% (109/1 865). Patients 13-18 years of age with supernumerary teeth in the mandibular and posterior regions and without anxiety had the highest proportion of local anesthesia use ($P < 0.001$). In contrast, patients who had supernumerary teeth located at the base of the nose (50%), severe anxiety (94.12%), and poor cooperation (98.18%) had the highest proportion of general anesthesia use ($P < 0.001$). There was no significant difference ($P = 0.35$) in the incidence of intraoperative and postoperative complications after the extraction of supernumerary teeth. However, the proportion of anesthesia-related complications, such as dizziness, coughing, and respiratory depression, occurring in patients who received general anesthesia was higher than local anesthesia, accounting for 3.81% ($P = 0.006$). **Conclusion** There is a gender difference in the incidence of supernumerary teeth in patients 4-18 years of age, with a higher prevalence in males. The majority of supernumerary teeth are single and located in the maxillary anterior region, predominantly in a centric position. Patients whose teeth had erupted were more likely to seek medical treatment voluntarily, while patients with supernumerary teeth located in the maxilla and mandible bones, as well as in the nasal floor were more likely to be referred to the department. Patients with high levels of anxiety, poor cooperation, young age, multiple teeth, and high surgical difficulty were more inclined to choose general anesthesia.

【Key words】 supernumerary teeth; tooth extraction; anesthesia; children; teenagers; department of stomatology; oral therapy

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多生牙(supernumerary teeth)是指除20颗乳牙或32颗恒牙外,在颌骨内异常萌出或保持阻生的牙齿或齿状结构,是人类牙齿发育中最常见的异常现象之一^[1-2]。多生牙发生率在乳牙列中为0.2%~0.8%,在恒牙列中为1.5%~3.8%^[3-4]。男性多生牙发生率高于女性^[5]。多生牙可单发或多发,单侧或双侧分布,多发于上颌骨而非下颌骨^[5-6]。尽管多生牙在多数情况下可能不引起显著症状,但它有可能诱发各种并发症,如牙齿排列紊乱、移位、牙根吸收、相邻牙齿拥挤以及囊肿或肿瘤等严重并发症^[7]。因此,早期识别及有效治疗至关重要。

儿童患者多生牙拔除术是具有挑战性的口腔临床操作^[8-9]。一方面源自操作的复杂性,另一方面则归因于儿童的恐惧及配合程度。儿童及青少年患者配合程度不佳,直接影响多生牙的诊断及治疗效果。随着口腔舒适化治疗理念的不断普及和技术的不断发展,除了传统的局部麻醉外,越来越多儿童接受口腔舒适化治疗,如辅以N₂O吸入镇静、静脉镇静或全身麻醉等方式下接受口腔治疗操作^[10],不仅提高治疗效率,而且提升患者舒适度。然而,目前尚无文献对于儿童及青少年群体多生牙拔除术的麻醉方式选择情况进行研究。

本研究拟通过回顾性分析儿童及青少年多生牙的三维形态、临床特点及其与麻醉方式选择的关系,以期儿童及青少年多生牙的麻醉方案选择提供参考依据。

1 资料和方法

1.1 一般资料

本研究已获得医院的机构伦理委员会批准(审批号:IRB-REV-2022045)。通过电子病历系统回顾2019年8月至2021年7月在第四军医大学口腔医院颌面外科接受多生牙拔除术儿童2 210例。纳入标准:①年龄4~18岁;②美国麻醉医师协会(American Society of Anesthesiologists, ASA)麻醉分级I~II级;③具有完整的口腔及麻醉病历记录和相关影像资料。排除标准:①病历资料不完整、影像学资料不清楚者;②ASA分级在II级以上的患者。

1.2 数据收集

在纳入的病历中,对于患者性别、年龄、多生牙数量、牙列、位置、预约原因、焦虑程度麻醉方

法、多生牙拔除术相关并发症和麻醉相关并发症等数据进行收集。①多生牙的数量:1颗、2颗、3颗及以上;②多生牙上下颌位置:上颌、下颌。③多生牙前后牙弓定位:颌前区(包括中切牙区、侧切牙区、尖牙区)、颌后区(包括前磨牙区、后磨牙区);④多生牙萌出程度:萌出(牙冠从骨质萌出)、埋伏(上颌骨低位骨埋伏、下颌骨高位骨埋伏)、鼻底(上颌骨高位骨埋伏);⑤多生牙生长方向:正中(多生牙牙根方向与邻近牙根方向一致)、倒置(多生牙牙根方向与邻近牙根方向相反)、倾斜或水平(牙冠或牙根朝向唇侧);⑥多生牙预约原因:主动就诊、科室转诊。⑦焦虑水平:采用焦虑视觉模拟量表(visual analog scale, VAS)对儿童焦虑程度进行评分^[11]。使用10 cm长的直线,标记0~10分,0分为“无焦虑”,1~3分为“轻度焦虑”,4~6分为“中度焦虑”,7~10分为“非常焦虑”;⑧配合程度:Houpt治疗过程依从性评价量表(中文版)用于评价儿童口腔治疗前的配合程度^[12],1~2分定义为配合程度好,3~4分定义为配合程度中,5~6分定义为配合程度差;⑨麻醉方式:麻醉方法包括局部麻醉、N₂O吸入镇静辅助局部麻醉或神经阻滞麻醉、咪达唑仑静脉镇静辅助局部麻醉或神经阻滞麻醉或全身麻醉。4%阿替卡因(含1:100 000肾上腺素)用作局部麻醉药。对于N₂O镇静,在局部麻醉或神经阻滞麻醉前吸入50%N₂O,在拔牙期间吸入30%~40%N₂O维持,直到治疗完成。静脉注射咪达唑仑用于静脉镇静,在局部麻醉或神经阻滞麻醉前静脉给予初始剂量为0.05 mg/kg咪达唑仑,根据患者的反应,滴定剂量为1 mg,镇静深度的MOAA/S评分维持4分^[13]。全身麻醉包括单纯吸入七氟醚、静吸复合联合气管插管及静吸复合联合喉罩;⑩多生牙拔除术及麻醉相关并发症:收集多生牙拔除病例及麻醉记录单中记录的相关并发症。

1.3 统计学方法

所有数据录入Microsoft Excel电子表格,采用SPSS 25.0对数据进行分析,使用卡方检验和Fisher精准检验进行统计学分析, $P < 0.05$ 为差异有统计学意义。

2 结果

2.1 患者基本特征

本研究最终纳入1 865例患者。患者平均年龄为(8.9±3.2)岁。男性患者(71.37%,1 331例)多于

女性(28.63%, 534例)($P < 0.001$),男女比例为2.49:1。

2.2 性别分布及多生牙数目分析

多生牙数目多为1颗,占比75.97%,仅有0.54%的患者有3颗以上多生牙。多生牙的数目在不同性别分布中差异没有统计学意义($\chi^2=5.79, P=0.122$)。见表1。

表1 1 865例儿童及青少年多生牙数目与性别分布

Table 1 Number and gender distribution of supernumerary teeth in 1 865 children and adolescents $n(\%)$

Number of supernumerary teeth	<i>n</i>	Male	Female	χ^2	<i>P</i>
1	1 417	997(70.36)	420(29.64)	5.79	0.122
2	420	315(75.00)	105(25.00)		
3	18	14(77.78)	4(22.22)		
>3	10	5(50.00)	5(50.00)		
Total	1 865	1 331(71.37)	534(28.63)		

2.3 多生牙分布、位置及生长方向

大多数多生牙位于上颌骨(97.2%, 1 812/1865)和前牙区(94.2%, 1 757/1 865),下颌骨和后

牙区少见。多生牙分为正置位、倒置位和倾斜或水平位,其中正置位占77.3%,倒置位占18.4%,倾斜或水平位占4.3%。见表2。

表2 1 865例儿童及青少年多生牙分布、位置及生长方向

Table 2 Distribution, position and growth direction of supernumerary teeth in 1 865 children and adolescents $n(\%)$

Variables	Supernumerary teeth
Distribution	Maxilla 1 812(97.16)
	Mandible 53(2.84)
Location	Anterior 1 757(94.21)
	Posterior 108(5.79)
Growth direction	Centric 1 442(77.32)
	Inverted 343(18.49)
	Inclined or horizontal 80(4.28)

2.4 多生牙的萌出状态及就诊原因分析

多生牙萌出的患者多为主动就诊(97.67%, 335/343),埋伏和鼻底多生牙患者科室转诊的比例

最多,分别占比为94.38%(1 361/1 442)和90.00%(72/80),萌出程度与就诊原因具有相关性($\chi^2=1 363.24, P < 0.001$)。见表3。

表3 1 865例儿童及青少年多生牙的萌出状态及就诊原因分析

Table 3 Eruption status and reason analysis of medical treatment of supernumerary teeth in 1 865 children and adolescents $n(\%)$

Eruption status	<i>n</i>	Independent treatment	Transfer treatment	χ^2	<i>P</i>
Erupted	343	335(97.67)	8(1.46)	1 363.24	< 0.001
Embedded	1 442	81(5.62)	1 361(94.38)		
Nasal base	80	8(10.00)	72(90.00)		
Total	1 865	424	1 441		

Embedded: located in the low position of the maxilla and the high position of the mandible; Nasal base: located in the high position of the maxilla bone ambush

2.5 麻醉方式选择及相关因素分析

麻醉方式选择N₂O镇静辅助局部麻醉或神经阻滞麻醉的患者最多,占比38.07%。性别在不同麻醉方式间无显著性差异($P=0.064$)。年龄、多生牙数目、上下颌位置、前后牙区、萌出程度、就诊原

因、焦虑程度、配合度对于麻醉方式呈现出显著性差异($P < 0.001$),年龄13~18岁、位于下颌、后牙区、无焦虑的患者接受局部麻醉占比较多,多生牙位于鼻底、重度焦虑、配合度差的患者的接受全身麻醉占比较多。见表4。

表4 1 865例儿童及青少年多生牙患者不同变量下麻醉方式选择分析
Table 4 Analysis of anesthesia method selection under different variables in 1 865 children and adolescents with supernumerary teeth

Variables		Anesthesia method				χ^2	P
		LA	N ₂ O+LA	IV+LA	GA		
Gender	Female	211(39.51)	196(36.70)	96(17.98)	31(5.81)	7.25	0.064
	Male	446(33.51)	514(38.62)	293(22.01)	78(5.86)		
Age/years	4-6	15(10.00)	72(48.00)	34(22.67)	29(19.33)	595.34	<0.001
	7-12	312(23.44)	609(45.76)	333(25.02)	77(5.78)		
	13-18	330(85.94)	29(7.55)	22(5.73)	3(0.78)		
Number of supernumerary teeth	1	523(36.91)	551(38.88)	264(18.63)	79(5.58)	37.11	<0.001
	2	116(27.62)	152(36.19)	122(29.05)	30(7.14)		
	3	0(0.00)	3(16.67)	12(66.67)	3(16.66)		
	>3	4(40.00)	6(60.00)	0(0.00)	0(0.00)		
Distribution	Maxilla	614(33.89)	704(38.85)	385(21.25)	109(6.01)	50.70	<0.001
	Mandible	43(81.13)	6(11.32)	4(7.55)	0(0.00)		
Location	Anterior	567(32.27)	701(39.90)	381(21.68)	108(6.15)	116.62	<0.001
	Posterior	90(83.33)	9(8.33)	8(7.41)	1(0.93)		
Growth direction	embedded	518(35.92)	702(48.68)	160(11.10)	62(4.30)	526.36	<0.001
	Erupted	99(28.86)	6(1.75)	195(56.85)	43(12.54)		
Reason for appointment	Nasal base	4(5.00)	2(2.50)	34(42.50)	40(50.00)	397.41	<0.001
	Independent treatment	179(42.02)	5(1.17)	198(46.48)	44(10.33)		
	Transfer treatment	478(33.22)	705(49.00)	191(13.27)	65(4.51)		
Anxiety degree	Severe	0(0.00)	2(3.92)	1(1.96)	48(94.12)	1 626.19	<0.001
	Moderate	4(1.15)	140(40.11)	167(47.85)	38(10.89)		
	Mild	98(14.18)	371(53.70)	200(28.94)	22(3.18)		
	None	555(71.71)	197(25.45)	21(2.71)	1(0.13)		
Cooperation degree	High	654(99.85)	0(0.00)	1(0.15)	0(0.00)	3 656.33	<0.001
	Medium	3(0.27)	710(64.55)	386(35.09)	1(0.09)		
	Low	0(0.00)	0(0.00)	2(1.82)	108(98.18)		
Total		657(35.23)	710(38.07)	389(20.86)	109(5.84)		

LA:local anesthesia; IV: intravenous sedation; GA: general anesthesia. Embedded: located in the low position of the maxilla and the high position of the mandible; Nasal base: located in the high position of the maxilla bone ambush

2.6 手术及麻醉相关并发症分析

2.6.1 多生牙拔除术相关并发症发生率 多生牙拔除术并发症在术中和术后均有发生,整体发生率较低。其中术中牙根折断2例(0.11%)、软组织损伤5例(0.27%)、骨组织损伤3例(0.16%)、神经损伤1例(0.05%);术后并发症包括出血有5例(0.27%),感染有2例(0.11%)。多生牙拔除术在术中和术后相关并发症发生率上显著差异($\chi^2=0.89, P=0.35$)。见表5。

2.6.2 麻醉相关并发症发生率 接受局部麻醉的患者中,有2例发生阿替卡因过敏反应,占比0.3%;接受N₂O镇静的患者中,有2例出现头晕(0.28%)、5例出现恶心呕吐(0.7%);接受咪达唑仑静脉镇静的患者中,有1例发生呼吸抑制(0.26%),3例出现头晕(0.77%)、2例出现呛咳(0.51%);接受全身麻醉的患者中,发生呼吸梗阻的有1例,占比0.09%,发生术后躁动的有3例,占比2.86%。全身麻醉的患者发生麻醉相关并发症发生率较其他麻醉方式高($\chi^2=12.47, P=0.006$)。见表6。

表5 1 865例儿童及青少年多生牙拔除术相关并发症情况

Table 5 Complications associated with extraction of supernumerary teeth in 1 865 children and adolescents n(%)

Time	Complication	n(%)
Intraoperative	Dental root fracture	2(0.11)
	Soft tissue injury	5(0.27)
	Bone injury	3(0.16)
	Nerve injury	1(0.05)
	Total	11(0.59)
Postoperation	Hemorrhage	5(0.27)
	Infection	2(0.11)
	Total	7(0.38)
χ^2		0.89
<i>P</i>		0.35

表6 1 865例儿童及青少年多生牙麻醉相关并发症情况

Table 6 Incidence of complications related to anesthesia of supernumerary teeth in 1 865 children and adolescents n(%)

Anesthesia method	Complication	n(%)
LA	Allergy	2(0.30)
	Dizziness	2(0.28)
N ₂ O+LA	PONV	5(0.70)
	Total	7(0.99)
	Respiratory depression	1(0.26)
IV+LA	Dizziness	3(0.77)
	Bucking	2(0.51)
	Total	6(1.54)
	Respiratory obstruction	1(0.09)
GA	Postoperative agitation	3(2.86)
	Total	4(3.81)
χ^2		12.47
<i>P</i>		0.006

LA:local anesthesia; IV: intravenous sedation; GA:general anesthesia; PONV: postoperative nausea and vomiting

3 讨论

多生牙是一种常见的牙齿发育异常,其显著特征是口腔内出现异常且多余的牙齿^[14]。随着医学的进步,无痛与舒适的口腔治疗理念日益深入人心,成为口腔及麻醉医学领域共同关注的热点。如何在治疗安全的同时,最大化提升患者的舒适度,减轻其生理疼痛与心理创伤,是口腔医生与麻醉医生面临的重大挑战。尽管诸多研究已深入探讨多生牙在不同人群中的发病率及特性,但少有研究分析影响此类患者麻醉选择的关键因素^[5,15-16]。本研究创新性地将患者焦虑水平与麻醉方式选择纳入考量,为临床决策提供了重要参考依据。

既往研究表明,多生牙在不同性别间存在差异,男性的发病率高于女性。本研究与之前研究结果一致,进一步证实了多生牙在不同性别间的

分布差异^[17-18]。此外,本研究还发现,多生牙以单颗为主,且主要集中在上颌前牙区,以正置位置多见。这一发现与多数关于多生牙研究和调查结果一致^[1,5]。

关于多生牙的拔除时机,学界存在不同观点,一种观点认为发现即应拔除,尤其是在5~7岁间,即相邻恒牙牙根发育完全,以避免错颌畸形的发生^[19-22];另一种观点则认为应该在8~10岁以后,以减少手术对恒牙牙根可能造成的潜在影响^[22-23]。值得注意的是,无论在哪个阶段拔除,多生牙的主要目标群体为儿童和青少年,这一群体往往配合度较差,而多生牙拔除手术又常涉及创伤性操作,因此,麻醉方式的选择尤为关键,它不仅关乎手术的顺利进行,还可能对患儿的心理状态产生深远影响^[24]。

本研究中发现年龄、焦虑程度、配合度对于麻

醉方式呈现出显著性差异。一项研究发现,牙科焦虑的患病率为24.3%,低于害怕蛇(34.8%)、恐高(30.8%)和身体伤害(27.2%);在恐惧症中,牙科恐惧症最常见(3.7%),其次是身高恐惧症(3.1%)和蜘蛛恐惧症(2.7%)^[25]。一些研究没有发现焦虑症与年龄有任何关联,而另一些研究则显示焦虑在成年早期达到顶峰,随着年龄的增长而有所减弱。由于认知能力有限、社交能力差及对家长的依赖性较大,儿童更容易出现术前焦虑,发生率高达41.7%~75.4%,术前焦虑的临床表现包括恐惧、分离困难和逃避。改良耶鲁术前焦虑量表(modified Yale preoperative anxiety scale, m-YPAS)和VAS评估量表是常用于评估儿童术前焦虑的行为观察量表^[26]。本研究采用VAS评估量表,该量表评分简单且可重复测量,更易被患儿及家属接受,本研究发现低龄、术前焦虑评分越高,选择全麻的概率更高,这不仅有助于患儿及时接受治疗,同时可以避免因负面手术经历所造成的创伤后应激障碍等^[27]。

同时,本研究还发现多生牙>3颗、位于鼻底者接受全身麻醉的比例较多。对于多生牙的数量较多、位于鼻底甚至突入鼻腔或与切牙管关系密切的多生牙患者,不但手术难度增加且手术时长也相应增加,而儿童维持专注的时间较短^[28],能够配合手术治疗的时间较短,进一步增加了手术难度。选择全身麻醉除了不对患儿造成心理创伤外,还可以提供更完善的镇痛及更好地暴露手术视野,提高手术质量和效率,使得多生牙治疗更加安全舒适。

Bereket等^[29]根据全景X线片发现,在非综合征土耳其人群的1100个多生牙总数中,大多数多生牙位于上颌骨(78%),其余位于下颌骨。本研究中大数多生牙发生在上颌骨(97.16%),下颌骨也有相当一部分(2.81%),多生牙多发生在颌前区(94.21%),其余位于颌后区(2.79%),这与以往研究一致,但因为此类患者较少,目前没有研究探讨这类病人的麻醉方式选择。本研究中发现多生牙上下颌位置、前后牙区对于麻醉方式呈现出显著性差异,位于下颌、后牙区的患者接受局部麻醉的比例较多,考虑可能与全身麻醉插管或喉罩置入影响术野暴露有关,但仍需要进一步的前瞻性研究分析。

研究还发现,多生牙拔除术术中和术后相关并发症发生率均较低。麻醉相关并发症中,全身

麻醉的患者相关并发症发生率高于其余麻醉方式。尽管如此,接受全身麻醉下多生牙拔除术麻醉相关并发症的发生率仍显著低于其他手术类^[30-31]。未来,将采取相应措施,进一步提升全身麻醉下多生牙拔除术麻醉质量。

作为麻醉方式选择的主要决策者,口腔医生需根据患者的具体情况,选择最合适的麻醉方案,防止患者在多生牙拔除过程中出现痛感,避免患者产生心理恐惧,影响手术配合。然而,目前多生牙拔除术的麻醉方式多样,尚未形成统一的选择标准^[32-33]。本研究结果提示,焦虑程度较高、配合程度较差、低龄、多生牙较多、位置较高手术难度较大的患者更倾向于选择镇静或全身麻醉。

本研究尚存在局限性。本研究为单中心回顾性研究,样本来源单一,且部分病例资料不完整,会造成一定的偏倚。另外,麻醉方式的选择除受患者本身的客观因素影响外,还与临床医生的受教育水平,职业成熟度,人为关怀等存在一定的关系,这些因素会影响患者对医生的信任度及配合程度,从而影响麻醉方式选择。

未来的研究首先应在不同的文化和种族群体中进行研究,以验证研究结果的普适性;其次,设计多中心的前瞻性研究或随机对照试验来探讨更多的混杂因素对多生牙治疗麻醉方式选择的影响。

[Author contributions] Zhang YQ performed the research, analyzed the data and wrote the article. Feng CH, Liang LR, Wu L performed the research and revised the article. Liu F, Wang PJ, Gao ZZ analyzed the data. Liu B designed the study and wrote the article. All authors read and approved the final manuscript as submitted.

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