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静脉注射乌拉地尔与硝酸甘油微泵对高血压患者拔牙术中血压及心率的影响*

李卫国¹ 马东湘¹ 赵世俊¹ 褚青松^{1Δ} 高吉贤²

(1 河北省沧州市人民医院口腔科 河北 沧州 061000; 2 河北省沧州市人民医院心内科 河北 沧州 061000)

摘要 目的:探讨静脉注射乌拉地尔与硝酸甘油微泵对高血压患者拔牙术中血压及心率(HR)的影响。**方法:**选择自2015年1月到2016年10月在我院进行心电监护拔牙的高血压患者116例纳入本次研究,根据随机数字表法将患者分成观察组以及对照组各58例,对照组给予硝酸甘油加泵静点维持,观察组给予乌拉地尔加泵静点维持,对比两组术前、麻醉时、麻醉后10min、术中及术后10min收缩压(SBP)、舒张压(DBP)以及HR的变化,并对比两组不良反应情况。**结果:**两组术中及术后10min的SBP和DBP水平均分别明显低于术前,观察组术中的SBP和DBP水平均分别明显低于对照组,差异均有统计学意义($P<0.05$);对照组术中及术后10min的HR均明显高于术前,且观察组均明显低于对照组,差异均有统计学意义($P<0.05$)。观察组不良反应的总发生率是6.90%(4/58),与对照组的10.34%(6/58)相比,差异无统计学意义($P>0.05$)。**结论:**静脉注射乌拉地尔对高血压患者在拔牙术中血压及HR的影响较小,安全性较好,值得推广。

关键词:乌拉地尔;硝酸甘油;微泵;高血压;拔牙术;血压;心率

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Influence of Intravenous Injection Urapidil and Nitroglycerin Micro Pump on Blood Pressure and Heart Rate of Hypertension Patients Undergoing Tooth Extraction*

LI Wei-guo¹, MA Dong-xiang¹, ZHAO Shi-jun¹, CHU Qing-song^{1Δ}, GAO Ji-xian²

(1 Department of Stomatology, Cangzhou People's Hospital, Cangzhou, Hebei, 061000, China;

2 Department of Cardiology, Cangzhou People's Hospital, Cangzhou, Hebei, 061000, China)

ABSTRACT Objective: To study influence of intravenous injection urapidil and nitroglycerin micro pump on blood pressure and heart rate (HR) of hypertension patients undergoing tooth extraction. **Methods:** 116 hypertension patients underwent electrocardiographic monitoring tooth extraction in our hospital from January 2015 to October 2016 were enrolled in this study. According to the random number table method, the patients were divided into observation group and control group with 58 cases, the control group was given nitroglycerin plus pump static point to maintain, the observation group was given intravenous urapidil and pump maintenance, compared the changes of systolic blood pressure (SBP), diastolic blood pressure (DBP) and HR in two groups before operation, at anesthesia, 10min after anesthesia, in operation, 10 min after operation, and compared the adverse reactions condition of the two groups. **Results:** The levels of SBP and DBP in two groups in operation and 10 min after operation were significantly lower than that before operation, and the SBP and DBP levels in the observation group in operation were significantly lower than control group, the differences were statistically significant (all $P<0.05$). The HR in control group in operation, 10 min after operation were significantly higher than before operation, while the observation group were significantly lower control group, the differences were statistically significant ($P<0.05$). The total incidence of adverse reactions in the observation group was 6.90%(4/58), which has no significant difference than 10.34% (6/58) in control group ($P>0.05$). **Conclusion:** Intravenous injection urapidil has little effect on blood pressure and HR in hypertension patients undergoing tooth extraction, and with good safety, which is worthy of promotion.

Key words: Urapidil; Nitroglycerin; Micro pump; Hypertension; Tooth extraction; Blood pressure; Heart rate

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前言

拔牙为临床牙科十分常见的一项医疗行为,由于拔牙会引

起疼痛、流血等情况,因此,人们对于拔牙通常存在一定程度心理恐惧,导致在拔牙过程中容易出现心率加快以及血压波动等症状,进而加重其自身心脏负担。同时临床研究发现,对于合并

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作者简介:李卫国(1973-),男,本科,主治医师,从事口腔医学方面的研究, E-mail: lwg11952@163.com

Δ 通讯作者:褚青松(1968-),男,本科,副主任医师,从事口腔医学方面的研究

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患有高血压疾病需要接受拔牙治疗的患者来讲,其在拔牙时因紧张所造成的血压骤然提升以及心率加快等状况,极易引发心脑血管意外等不良后果,需给予高度关注^[1,2]。以往临床牙科医生在对高血压患者进行拔牙之前,不仅对患者紧张心理进行疏导,同时提倡患者接受血压稳定相关治疗。但是多项报道指出,尽管高血压患者拔牙前经治疗其血压基本平稳,但在拔牙时接受刺激后其血压仍会骤升,存在严重的诱发心脑血管疾病风险^[3,4]。因此,在高血压患者拔牙过程中,同样需要给予其进行有效的稳定血压相关操作。本文通过研究分析静脉注射乌拉地尔与硝酸甘油微泵对高血压患者拔牙术中血压及心率的影响,目的在于为临床治疗提供相应的数据支持,现报道如下。

1 资料和方法

1.1 临床资料

选择自 2015 年 1 月到 2016 年 10 月在我院口腔科进行心电监护拔牙的高血压患者 116 例纳入本次研究。纳入标准:(1)来门诊治疗时的收缩压(SBP)<180 mmHg,而舒张压(DBP)<110 mmHg;(2)口腔科初诊患者;(3)年龄>40 岁者;(4)对本次研究已知情,且已签署了知情同意书。排除标准:(1)有血液疾病者;(2)有恶性肿瘤者;(3)有其他拔牙禁忌者。根据随机数字表法将患者分成观察组以及对照组各 58 例,其中观察组男 50 例,女 8 例;年龄 44~92 岁,平均(63.24±2.10)岁。对照组男 48 例,女 10 例;年龄 45~88 岁,平均(63.31±1.97)岁。对比两组性别及年龄数据,差异无统计学意义($P>0.05$),具有可比性。关于本次研究,医院内的伦理委员会已经做出了审核批准。

1.2 研究方法

两组患者均在手术前常规进行内科病史的询问,并连接好 18 导联心电图及心电监护仪,在手术全程实施血压和心率的

监测,记录两组患者在术前、麻醉时、麻醉后 10 min、术中及术后 10 min 的血压及心率数据。其中在拔牙或者开髓治疗过程中 SBP 存在较大幅度上升时(>180 mmHg),对照组给予硝酸甘油(山东圣鲁制药有限公司,国药准字:H20058649)加泵静点维持,剂量自 5 μ g/min 开始,按照血压情况调整泵速,确保 SBP 降至 160 mmHg 内时完成治疗。观察组给予乌拉地尔(山东罗欣药业股份有限公司,国药准字:H20051889)加泵静点维持,将 20 mL 的注射液稀释至 50 mL,最大药物剂量为 4 mg/mL,按照患者的血压情况进行调节,初始的输入速度为 2 mg/min,并维持给药速度 9 mg/h,确保 SBP 降至 160 mmHg 内时完成治疗。

1.3 观察指标

对比两组不同时间(术前、麻醉时、麻醉后 10 min、术中及术后 10 min)SBP、DBP 和心率(HR)的变化,观察两组不良反应发生情况如头痛、胃肠道反应、乏力及出汗。

1.4 统计学方法

通过 SPSS21.0 统计软件分析,计量数据的比较采用($\bar{x}\pm s$)表示,进行 t 检验,计数资料的比较采用 n(%)表示,进行 χ^2 检验, $P<0.05$ 为差异有统计学意义。

2 结果

2.1 两组不同时间血压变化的对比

两组术前、麻醉时、麻醉后 10 min 以及术后 10 min 的 SBP 和 DBP 水平相比,差异无统计学意义($P>0.05$),两组术中及术后 10 min 的 SBP 和 DBP 水平均分别明显低于术前,差异有统计学意义($P<0.05$),观察组术中的 SBP 和 DBP 水平均分别明显低于对照组,差异有统计学意义($P<0.05$),见表 1。

表 1 两组不同时间血压比较($\bar{x}\pm s$)

Table 1 Comparison of blood pressure in the two groups at different time($\bar{x}\pm s$)

Groups	SBP(mmHg)					DBP(mmHg)				
	Before operation	At anesthesia	10 min after anesthesia	In operation	10 min after operation	Before operation	At anesthesia	10 min after anesthesia	In operation	10 min after operation
Observation group (n=58)	168.47±11.36	171.82±10.64	169.57±11.28	152.43±8.67*	160.21±6.27*	101.59±7.68	103.66±8.21	105.37±10.21	90.48±10.23*	95.26±9.83*
Control group (n=58)	165.26±14.34	167.37±15.21	168.29±10.69	160.21±10.36*	161.13±5.39*	101.88±6.94	102.69±8.35	104.32±9.88	96.27±5.24*	97.32±8.36*
t	1.336	1.826	0.627	4.386	0.847	0.213	0.631	0.563	3.836	1.216
P	0.184	0.071	0.532	0.000	0.399	0.831	0.529	0.575	0.000	0.227

Note: Compared with before operation, * $P<0.05$.

2.2 两组不同时间心率的对比

观察组麻醉时、麻醉后 10 min、术中以及术后 10 min HR 与术前比较,差异无统计学意义($P>0.05$)。对照组术中及术后 10 min 的 HR 均明显高于术前,差异有统计学意义($P<0.05$)。观察组术中及术后 10 min 的 HR 均明显低于对照组,差异有统计学意义($P<0.05$),见表 2。

2.3 两组不良反应的对比

观察组不良反应的总发生率是 6.90%(4/58),与对照组的 10.34%(6/58)相比,差异无统计学意义($P>0.05$),见表 3。

3 讨论

任何原因所导致的高血压患者 SBP 急速上升,均有可能

表 2 两组不同时间心率的对比

Table 2 Comparison of heart rate in the two groups at different time

Groups	HR(times/min)				
	Before operation	At anesthesia	10 min after anesthesia	In operation	10 min after operation
Observation group (n=58)	81.82± 10.26	83.66± 11.17	84.21± 10.33	83.18± 9.36	84.08± 10.19
Control group(n=58)	81.78± 11.31	83.78± 10.94	84.30± 10.46	91.36± 10.15*	90.29± 9.63*
t	0.020	0.058	0.047	4.512	3.373
P	0.984	0.954	0.963	0.000	0.001

Note:Compared with before operation,*P<0.05.

表 3 两组不良反应的对比[n(%)]

Table 3 Comparison of adverse reactions in the two groups[n(%)]

Groups	Headache	Gastrointestinal reaction	Lacking in strength	Perspire	Total incidence rate
Observation group (n=58)	1(1.72)	2(3.45)	0(0.00)	1(1.72)	4(6.90)
Control group(n=58)	2(3.45)	1(1.72)	1(1.72)	2(3.45)	6(10.34)
χ^2		0.438			
P		0.508			

造成心脑血管意外的发生,严重者甚至威胁患者生命。对于高血压患者而言,当其 SBP 水平高于 160 mmHg 时,其 SBP 每上升 10 mmHg,其发生不良心脑血管事件的几率则会相应扩大 3 倍^[56]。而临床研究发现,当高血压患者接受拔牙治疗时,尽管其在治疗前血压以控制在安全范围内,治疗过程中仍然会出现血压骤升情况,并且其血压水平甚至会上升至 200 mmHg/12 mmHg,大大增加了不良事件发生风险^[78]。因此,高血压患者在接受拔牙治疗期间,血压管理十分重要,需要通过降压疗效快并且副反应较小的降压类药物,对患者血压进行控制,保证其在整个治疗过程中保持平稳。硝酸甘油为临床常用的降压药物,可用于高血压患者拔牙时血压控制治疗。但临床研究发现^[9,10],虽然硝酸甘油微泵治疗能够起到降压并稳压的效果,但是其对患者心率产生一定影响,其整体疗效不满意,寻找新型降压方案显得十分必要。

本文研究显示,两组术中及术后 10 min 的 SBP 和 DBP 水平均分别明显低于术前,观察组术中的 SBP 和 DBP 水平均分别明显低于对照组(P<0.05)。提示两组患者用药后的血压均下降,但观察组的降压效果更好。分析原因,主要是与乌拉地尔独特的降压机制有关。具体而言,乌拉地尔是苯哌嗪所取代的一种呋喃衍生物,其为临床典型的治疗高血压药物,具备外周以及中枢系统双重降压疗效^[11-13]。其药理作用在于,对外周循环系统,其通过对突触后 α_1 类型受体进行阻断,使得血管发生扩张,进而达到有效降低外周阻力的效果。其还对突出前 α_2 起到一定阻滞作用,通过对儿茶酚胺进行阻断来获得血管收缩的结果^[14,15]。而其对中枢所产生的作用在于,其能够激活 5-羟色胺类型受体,使延髓心血管内中枢神经发生交感反馈性调节,进而达到降压效果。而硝酸甘油通常用于冠心病心绞痛以及降

压等临床治疗当中,其主要通过松弛血管上平滑肌方式来起到降压作用。其药理作用在于通过释放 NO,来激活机体鸟苷酸环化酶,进而使得平滑肌以及其他组织中鸟苷酸含量上升,帮助肌球蛋白发生轻链去磷酸化作用,促进平滑肌达到收缩状态,最终获得血管扩张的效果^[6]。但临床研究发现,硝酸甘油在降压的同时,还会使机体因血压的下降而发生反射作用,导致心率加快的不良后果^[17]。同时,本研究发现,对照组术中及术后 10 min 的 HR 均明显高于术前(P<0.05),而观察组术中及术后 10 min 的 HR 均明显低于对照组(P<0.05),提示观察组应用乌拉地尔后对患者的心率影响较对照组更小。分析原因,主要是因为乌拉地尔在对中枢产生作用时,使交感神经受到抑制,进而阻止反射性的心率加快的不良后果,同时还避免了相应的头痛等副反应状况^[18,19]。因此,该药在降血压过程中,不会导致反射性的心率加快,更加安全可靠。本文结果发现观察组不良反应的总发生率是 6.90%(4/58),与对照组的 10.34%(6/58)相比无统计学差异(P>0.05),这再次证实了观察组的乌拉地尔用药方案不会增加患者的不良反应,安全性较好。而硝酸甘油微泵虽然能够起到快速降压的效果,但是其会导致患者心率加快,并有引发头痛的风险,对临床推广应用造成了限制^[20]。

综上所述,静脉注射乌拉地尔对高血压患者在拔牙术中血压及心率的影响较小,安全性较好,值得给予推广。

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