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经皮扩张气管切开术在重症脑出血患者抢救中应用价值

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摘要 目的:研究经皮扩张气管切开术在重症脑出血患者抢救中应用价值。**方法:** 选取 2010 年 1 月至 2013 年 12 月在我院诊治的 80 例重度脑出血患者,根据自愿原则,40 例采用经皮扩张气管切开术进行抢救治疗为观察组,其余 40 例采用传统气管切开术治疗为对照组,比较两组患者术中平均出血量、手术时间、术后切口愈合时间、颈部疤痕情况以及术后并发症发生率。**结果:** ①观察组患者较对照组术中出血量少、手术时间及术后切口愈合时间较短、颈部伤疤小,两组比较差异有统计学意义(P＜0.05);②观察组患者并发症发生率为 7.5%,明显低于对照组的 22.5%,比较差异有统计学意义(P＜0.05)。**结论:**经皮扩张气管切开术抢救重症脑出血合并呼吸道梗阻具有操作简单,创伤小,愈合快且并发症少的优势,值得临床推广应用。

关键词:经皮扩张气管切开术;气管切开术;重症脑出血

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Application Value of Percutaneous Dilational Tracheostomy in Rescue of Patients with Severe Cerebral Hemorrhage

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ABSTRACT Objective: To observe the application value of percutaneous dilational tracheostomy in rescue of patients with severe cerebral hemorrhage. **Methods:** 80 cases of patients with severe cerebral hemorrhage from January 2010 to December 2013 in our hospital were selected, according to the principle of voluntary,40 cases of them given percutaneous dilational tracheostomy for treatment were set as the observation group, the other 40 cases that received traditional tracheotomy were set as the control group. The average amount of bleeding, average operation time, postoperative wound healing time, neck scar condition and the incidence of postoperative complications of the two groups were compared. **Results:** ①The patients in the observation group had less bleeding, shorter operation time, postoperative wound healing timeand smaller the neck scar when compared with those of the control group, the difference was significant (P<0.05); ②The incidence of complications of the observation group was 7.5%, significantly lower than that of the control group(22.5%), and the difference was statistically significant (P<0.05). **Conclusion:** Percutaneous dilational tracheostomy in rescue of severe cerebral hemorrhage complicated with respiratory tract obstruction has the advantages of simple operation, small trauma ,fast healing and fewer complications, it is worthy of clinical application.

Key words: Percutaneous dilational tracheostomy; Tracheotomy; Severe cerebral hemorrha

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前言

重症脑出血是严重威胁患者生命的重症疾病之一,该类患者由于气管内分泌物潴留以及喉源性呼吸困难等各种原因引发的呼吸功能障碍[1-3],如果不进行及时救治,极易引发呼吸衰竭,甚至导致死亡[4-6]。气管切开术有助于机械通气以及吸痰的实施,能够降低呼吸道的阻力,减少机械通气时间,是抢救该类危重病人,构建人工气道的不可缺少的重要手段,传统的气管切开手术明显降低了危急重病人死亡率,但是长期的临床观察发现传统气管切开手术创伤较大,并发症较多,近年来,经皮扩张气管切开术在抢救危重病人中的应用越来越广泛,并且具有微创、快速及简单等优点[7-9],2010 年 1 月至 2013 年 12 月,我院对重症脑出血合并气道梗阻的患者行经皮扩张气管切开术,收到较好的临床效果,现报告如下。

1 资料与方法

1.1 一般资料

选取 2010 年 1 月至 2013 年 12 月在我院诊治的的 80 例重度脑出血患者,纳入标准[10]:①患者均采用了颅脑微创手术;②均符合第四次全国脑血管学术会议修订的脑出血诊断标准;③患者均在入院后 48 h 内进行气管插管救治。排除标准:①未经头颅 MRI 或者 CT 进行确诊者;②并发糖尿病患者;③外伤性脑出血患者;④为进行气管插管直接行气管切开术者。根据随机自愿的原则,其中 40 例,采用经皮扩张气管切开术进行抢救治疗,列为观察组,男 23 例,女 17 例,年龄 41-76 岁,平均

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(60.92± 10.36)岁,出血量 61-159 mL,平均(82.31± 10.77)mL,昏迷评分为(7.31± 1.68)分;其余 40 例,采用传统气管切开术治疗,列为对照组,男性患者 22 例,女性患者 18 例;年龄 43-75 岁,平均(60.46± 10.84)岁;脑出血量 64-158 mL,平均(82.61± 10.35)mL;平均昏迷评分(7.62± 1.47)分。比较两组患者的性别、年龄、出血量以及昏迷评分等一般资料差异无统计学意义(P> 0.05),具有可比性。

1.2 术前准备

无菌孔巾,2%利多卡因,络合碘消毒液,咪唑安定,常规的气管切开包。患者一般取平卧体位,肩部垫高使其颈部处于过伸状态。

1.3 手术方法

对照组:患者仰卧位,垫高肩部使颈部过伸,头处于后仰状态,操作部位充分暴露,气管始终保持在正中位,常规术区铺无菌孔巾、戴无菌手套,躁动或清醒的患者在术前静脉注射 10-20 mg 咪唑安定,使患者处于镇静放松状态。使用呼吸机的患者,应在术前 15 min 给予 100%氧气通气,提高其机体氧储备。用 2%利多卡因 5 mL环状软骨与胸骨上窝之间行颈前部皮肤浸润麻醉,局麻后,纵行切开 4-5 cm,逐层分离颈前及皮下肌群,使气管前壁暴露,用 5 mL注射器穿刺抽吸可见大量气泡,证实为气管,注射 2%利多卡因 2-3 mL进行气管黏膜浸润麻醉,直视下切开 2-4 气管软骨环,用气管撑开器将气管前壁撑开,缓慢插入气管导管,确保气管导管位置准确且通畅后,逐层缝合伤口,最后固定气管导管,因手术中需充分暴露气管,一般要 2 名以上医生进行操作。

观察组:经皮气管切开术中患者体位、术前准备以及手术定位均与传统气管切开术相同。选择胸骨上凹 1.5-2.5 cm 处为切口,即相当于第二环状软骨与第三环状软骨之间,2%利多卡因 5 ml 进行局麻后做横行手术切口,长约 1.0-1.5 cm,血管钳钝性分离至气管前筋膜处,在软骨间进行穿刺,尽可能保证穿刺点在正中部位,抽取 2%利多卡因 2.5 mL带穿刺针垂直插入,至有突破感后回吸,大量气泡涌出,可确定针尖已进入气管内,在气管表面注射 2%利多卡因 2.5 mL进行麻醉, 沿穿刺针插入导丝约 20-25 cm,拔出穿刺针,使用扩张器沿着导丝进行扩张,再沿着导丝将扩张钳插入,至扩张钳顶端达气管前壁后,则钝性、持续、缓慢地扩张皮肤直至气管壁各层可容下气管切开导管,将扩张钳抽出,若已经行鼻或行口气管插管者,则将气管插管退至声门以下的尖端,吸痰后确认气道通畅,气囊充气,固定气管切开导管,接通呼吸机进行机械通气。患者床边备普通气管切开包,若经皮扩张气管切开术失误,则快速改用传统气管切开术。

1.4 观察指标

①比较两组患者手术平均出血量、手术时间、拔管后手术切口愈合时间、颈部疤痕。②比较两组患者手术并发症,包括窒息、皮下气肿、切口溢痰、切口感染、气管狭窄、低氧血症。

1.5 统计学方法

应用 SPSS17.0 医学统计学软件处理,计量资料用($\bar{x}\pm s$)表示,采用 t 检验,计数资料采用 x^2 检验,P< 0.05 表示差异具有统计学意义。

2 结果

2.1 两组患者术中各指标比较

观察组患者较对照组平均术中血量少、手术时间及手术切口愈合时间短、颈部伤疤小,两组比较差异有统计学意义(P< 0.05),详见表 1。

表 1 两组患者术中各指标比较($\bar{x}\pm s$)

Table 1 Comparison of various indexes between the two groups($\bar{x}\pm s$)

组别 Groups	例数 Cases	术中血量 Blood loss	手术时间 Operation time	切口愈合时间 Postoperative wound healing time	颈部疤痕长度 The length of neck scar
观察组 Observation group	40	12.32± 7.54	7.21± 2.96	3.5± 1.6	0.3± 0.12
对照组 Control group	40	30.04± 9.37	21.75± 7.64	7.9± 2.1	1.0± 0.63
t		15.746	14.021	5.294	5.739
P		0.012	0.025	0.034	0.018

2.2 两组患者手术并发症发生率比较

观察组患者发生窒息 1 例、皮下气肿 0 例、切口溢痰 0 例、切口感染 1 例、气管狭窄 0 例、低氧血症 1 例,并发症发生率为 7.5%,对照组发生窒息 0 例、皮下气肿 3 例、切口溢痰 5 例、切口感染 5 例、气管狭窄 1 例、低氧血症 2 例,并发症发生率为 22.5%, 两组患者比较并发症发生率差异有统计学意义 (P< 0.05),详见表 2。

3 讨论

重症脑出血患者常由于肺部感染、气道内分泌物较粘稠等原因导致呼吸衰竭,从而使病情加重,直接影响患者的预后[11,12]。多年来,气管切开术作为解除患者呼吸道梗塞的常用手术治疗方法,一直占据着临床急救工作的主导地位。但是,传统的气管切开术手术时间长、并发症发生率高,及手术创伤大,一旦损伤了动脉,可引起大出血,甚至导致死亡,对于部分危重患者不适用[13]。由于传统的气管切开术容易出现窒息、皮下气肿、切口溢痰、切口感染、气管狭窄、低氧血症及急性肺水肿等并发症[14],且有一定操作难度,因此在临床中出现气管切开指征时,医师不能及时决定手术,从而导致延误抢救患者的最好时机[15]。有研究显示,经皮扩张气管切开术作为一种日益完善的新的手术治疗方法,在国、内外急救医学中的应用越来越广泛,该术式具有操作简单,切口小,手术时间短、切口愈合快等微创优点,且

术中术后并发症少,安全性较高,受到临床的普遍欢迎[16]。

经皮扩张气管切开术是近年来出现的一项采用 Seldinger 技术通过特殊器械实施气管切开的技术[17],与传统气管切开术比较,器械简单,手术操作简单,可快速安全地开放气道。经皮扩张气管切开术属于微创手术,损伤较小,手术范围局限,因为是钝性分离,创伤及出血少,最直接的优点是手术创伤小、手术操作时间短,本组实验中,经皮扩张气管切开术组患者平均手术时间为(7.21± 2.96)min,平均出血量为(12.32± 7.54)mL,较传统气管切开术组患者的(21.75± 7.64)min,(30.04± 9.37)min 明显减短、减少,一方面,操作的简便快捷性,为抢救患者提供了时间保障;另一方面,较小的创伤与出血量减少二次损伤,促进早期康复有积极地临床意义。在本研究中,与传统气管切开术组比较,经皮扩张气管切开术组患者的拔管后手术切口愈合时间明显缩短、颈部疤痕明显小,也是微创手术优势的进一步体现。

表 2 两组患者并发症发生率比较

Table 2 Comparison of the incidence of postoperative complications between the two groups

组别 Groups	例数 Cases	并发症 Complications						发生率 Incidence
		窒息 Asphyxia	皮下气肿 Aerodermectasia	切口溢痰 Incision excessive phlegm	切口感染 Incision infection	气管狭窄 Tracheostenosis	低氧血症 Hypoxemia	
观察组 Observation group	40	1	0	0	1	0	1	7.5%
对照组 Control group	40	0	2	2	2	1	2	

注:与对照比较(x^2=8.364,P=0.022)。

Note:compared with the control group(x^2=8.364,P=0.022).

由于经皮扩张气管切开术手术时间较短,不需要充分暴露气管,对患者的刺激较小,并且气管表面进行了局麻,手术过程中患者生命体征波动较小,患者高血压、憋气及心律失常发生率较低[18,19],另外,手术出血量少,也减少了切口出血进入气管的风险,从而降低误吸的可能。国外 Ganuza 等报道[20],经皮扩张气管切开术的窒息、皮下气肿、切口溢痰、切口感染、气管狭窄、低氧血症等并发症发生少。在本组实验中,经皮扩张气管切开术组患者并发症发生率为 7.5%,明显低于传统气管切开组的 40%,与 Ganuza 等研究结果基本一致。

综上所述,经皮扩张气管切开术作为一种微创、快速、简单的呼吸道重建术,具有独特的临床优势。近年来,随着经皮扩张气管切开术适应证逐步增多,对具有气管切开指征的患者尽早行经皮扩张气管切开术,可以缩短手术时间、减少二次损伤、有利于早期康复,且安全性较高,对提高抢救患者的手术成功率,降低重度脑出血患者的死亡率有积极的临床意义。

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