

负压引流器及改良引流技术用于ERCP术后鼻胆管引流的临床研究

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【摘要】目的:观察负压引流器及改良引流技术在ERCP术后鼻胆管引流中的临床价值。**方法:**选择100例行ERCP患者进行前瞻性研究,按随机数字表分为观察组与对照组,各50例。观察组采用负压引流器联合改良引流技术,对照组应用常规留置引流袋进行引流并予常规引流护理。比较两组每日引流量、导管堵塞发生率、住院时间、住院费用、术后并发症(包括高淀粉酶血症、胆管炎、胰腺炎等)总发生率、不适反应与导管不良事件总发生率。**结果:**观察组每日引流量显著高于对照组($P<0.05$);观察组导管堵塞发生率、住院时间、住院费用显著低于对照组($P<0.05$)。两组胆管炎与胰腺炎发生率未见统计学意义($P>0.05$);观察组高淀粉酶血症与并发症总发生率分别为12.00%与14.00%,显著低于对照组的28.00%与40.00%($P<0.05$)。观察组不适反应与导管不良事件总发生率为4.00%,显著低于对照组的22.00%($P<0.05$)。**结论:**ERCP术后采用负压引流器进行鼻胆管引流,可获得理想引流效果,降低导管堵塞率,减少术后并发症与不适症状,改良引流技术还可进一步降低导管脱出率,确保引流通畅,可加速患者恢复,使住院时间缩短。

【关键词】内镜逆行胰胆管造影;负压引流器;改良引流技术;鼻胆管引流

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Clinical study of negative pressure drainage device and improved drainage technique for nasobiliary drainage after ERCP

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Abstract: Objective To investigate the clinical value of negative pressure drainage device and improved drainage technique in nasobiliary drainage after endoscopic retrograde cholangio-pancreatography (ERCP). **Methods** A total of 100 cases of patients receiving ERCP were selected for prospective study and randomly divided into observation group and control group, with 50 cases in each group. The patients in observation group were treated with negative pressure drainage device combined with improved drainage technique, while those in control group received conventional indwelling drainage bag for drainage and conventional drainage care. The daily drainage volume, incidence of catheter occlusion, hospital stay, hospitalization expenses, the total incidence of postoperative complications (including hyperamylasemia, cholangitis, pancreatitis, etc.), adverse reactions and catheter adverse events in the two groups were compared. **Results** Compared with control group, observation group had significantly larger daily drainage volume ($P<0.05$). The incidence of catheter occlusion, hospital stay and hospitalization expenses in observation group were significantly lower than those in control group ($P<0.05$). No statistical significance was found between two groups in the incidence of cholangitis and pancreatitis ($P>0.05$). The total incidences of hyperamylasemia and complications in observation group were 12.00% and 14.00%, respectively, significantly lower than 28.00% and 40.00% in control group ($P<0.05$). The total incidence of adverse reactions and catheter adverse events in observation group was 4.00%, significantly lower than 22.00% in control group ($P<0.05$). **Conclusion** Negative pressure drainage device for nasobiliary drainage after ERCP can achieve an ideal drainage effect, lower the rate of catheter occlusion, and reduce postoperative complications and adverse reactions. Moreover, the improved drainage technique can further decrease the incidence of catheter falling out and ensure a smooth drainage, which can accelerate recovery and shorten hospital stay.

Keywords: endoscopic retrograde cholangio-pancreatography; negative pressure drainage device; improved drainage technique; nasobiliary drainage

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前言

内镜逆行胰胆管造影(Endoscopic Retrograde Cholangio-pancreatography, ERCP)为当前胰胆疾病的重要检查及治疗手段,但具有一定的侵入性,可能引起高淀粉酶血症、消化道出血等并发症,导致预后不良,如何减少ERCP术后并发症成为当前的重要问题^[1]。多项研究显示,鼻胆管引流(Endoscopic Nasobiliary Drainage, ENBD)可有效预防ERCP术后胆道感染,可引起减压引流作用,现已用于多种胆管梗阻性病变的引流^[2-4]。但ENBD的效果会受到导管固定困难、引流负压难以控制等因素的影响,引起患者感觉不适,部分患者病程时间延长。本院应用负压引流器进行ENBD,且对引流技术进行改良,取得良好效果。

1 资料与方法

1.1 纳入与排除标准

纳入标准:(1)行ERCP术者;(2)年龄18~70岁;(3)研究获得医院伦理委员会批准,患者签署知情同意书。排除标准:(1)ERCP后安装胆道支架者;(2)存在ERCP术禁忌症者。

1.2 临床资料

选择本院2016年10月~2017年10月收治的100例行ERCP患者进行前瞻性研究,按随机数字表分为观察组与对照组,各50例。观察组男39例、女11例;年龄40~67岁,平均(54.34±8.12)岁;患者类型:胆总管结石37例、胆管炎13例。对照组男36例、女14例;年龄38~65岁,平均(52.56±9.41)岁;患者类型:胆总管结石33例、胆管炎17例。两组基线资料的差异均无统计学意义($P>0.05$),具有可比性。

1.3 方法

1.3.1 观察组 采用负压引流器引流,所用鼻胆引流管购自库克(中国)医疗贸易有限公司,型号ENBD-7-NAG。将鼻胆管置入至肝总管,经鼻腔插入橡胶鼻导管至口咽部,由口部通过鼻导管将鼻胆管从鼻腔引出,固定于鼻翼及耳廓。持续负压引流,大小为(-1~-5) kPa,间隔2 h观察引流情况,连续4 h左右引流量未增加或24 h内总引流量<100 mL者用庆大霉素16万单位加入到0.9%氯化钠溶液中对注射器先抽吸后冲洗。改良引流技术:(1)预防并发症,术后早期应用抗生素预防感染,做好相关检查,如测定血尿淀粉酶水平等。(2)重视导管护理,用粘性效果好的弹力胶布固定导管,留取足够长度,并在固定处做好标记,定时观察导管有无脱出。引流袋置在较低位置,避免逆行感染与导管受压,定期更换引流袋,预

防引流不畅情况的发生。护理人员每日记录引流量、液体性质等。(3)做好健康宣教,向患者解释可能出现的不适症状,消除其恐惧心理。指导患者用漱口水漱口,指导其进行引流管的自我护理,进行病情的自我监测。

1.3.2 对照组 ERCP术后常规留置引流袋进行引流,固定胃管,予以常规导管护理措施,密切观察患者生命体征,指导患者及其家属学习导管护理要点,做好健康宣教工作。

1.4 观察指标

1.4.1 引流情况 比较两组每日引流量及导管堵塞发生率。

1.4.2 住院情况 比较两组住院时间与住院费用。

1.4.3 术后并发症 记录两组术后并发症发生情况,包括高淀粉酶血症、胆管炎、胰腺炎等,比较术后并发症总发生率。高淀粉酶血症判断标准:血淀粉酶水平升高,未见发热、腹痛等症状;胆管炎判断标准:术前无发热,术后出现腹痛、发热症状,且白细胞与胆红素升高,需保守治疗3 d左右;胰腺炎判断标准:血淀粉酶水平升高超过正常水平3倍,伴随持续腹痛。

1.4.4 不适反应与导管不良事件 比较两组不适反应(包括腹痛与消化道不适)与导管脱出发生情况,比较总发生率。

1.5 统计学方法

采用SPSS 19.0处理数据,计量资料采用均数±标准差表示,比较采取独立样本 t 检验;计数资料用 n (%)表示,比较行 χ^2 检验,理论频数<5时采取连续校正卡方检验,以 $P<0.05$ 为差异有统计学意义。

2 结果

2.1 引流情况与住院情况比较

观察组每日引流量显著高于对照组($P<0.05$),观察组导管堵塞发生率、住院时间、住院费用显著低于对照组($P<0.05$),见表1。

2.2 术后并发症

两组胆管炎与胰腺炎发生率未见统计学意义($P>0.05$),观察组高淀粉酶血症与并发症总发生率显著低于对照组($P<0.05$),见表2。

2.3 不适反应与导管不良事件

观察组不适反应与导管不良事件总发生率为4.00%,显著低于对照组的22.00%($P<0.05$),见表3。

3 讨论

鼻胆管引流为常见胆管置管引流减压技术,可迅速解除胆道梗阻、降低胆道压力、通畅引流,已在

表1 两组引流情况与住院情况比较($n=50$)Tab.1 Comparison of drainage and hospitalization in two groups ($n=50$)

Group	Daily drainage/mL	Incidence of catheter occlusion [cases(%)]	Hospital stay/d	Hospitalization expenses/yuan
Observation	310.4±46.1	4(8.0)	8.6±2.1	20 352±1 710
Control	278.5±43.2	12(24.0)	10.2±2.2	24 065±1 782
t/χ^2 value	3.565	4.762	3.577	10.628
P value	0.001	0.029	0.001	0.000

表2 两组术后并发症发生率比较[$n=50$, 例(%)]Tab.2 Comparison of postoperative complication rates between two groups [$n=50$, cases(%)]

Group	Hyperamylasemia	Cholangitis	Pancreatitis	Total incidence
Observation	6(12.0)	0(0.0)	1(2.0)	7(14.0)
Control	14(28.0)	2(4.0)	4(8.0)	20(40.0)
χ^2 value	4.000	0.510*	0.842*	8.574
P value	0.046	0.475	0.359	0.003

*: Corrected chi-square value

表3 两组不适反应与导管不良事件的比较[$n=50$, 例(%)]Tab.3 Comparison of adverse reactions and catheter adverse events between two groups [$n=50$, cases(%)]

Group	Stomach ache	Digestive discomfort	Catheter falling out	Total incidence
Observation	1(2.0)	1(2.0)	0(0.0)	2(4.0)
Control	4(8.0)	4(8.0)	3(6.0)	11(22.0)
χ^2 value	0.842*	0.842*	1.375*	7.162
P value	0.359	0.359	0.241	0.007

*: Corrected chi-square value

临床上得到广泛应用^[5]。据报道,鼻胆管管径细长,加之胆汁较为黏稠,尤其胆道泥沙样结石或化脓性胆管炎患者常出现鼻胆管阻塞,致引流不畅,延长患者住院时间^[6-7]。

目前已有较多学者对鼻胆管的冲洗进行了研究,发现正压冲洗会增加胆道逆行感染风险,且需严格把握冲洗速度与压力,否则易导致胆绞痛,增加患者痛苦^[8-9]。本研究观察组使用一次性负压引流器代替普通引流袋进行鼻胆管引流,并采取改良引流技术,结果显示观察组每日引流量显著高于对照组,导管堵塞发生率较对照组大幅降低,提示一次性负压引流器的应用可取得更佳的引流效果。胆道内淤积的胆汁常伴脓性分泌物及胆泥,普通引流袋主要利用虹吸机理进行引流,脓性胆汁的引流较为困难^[10]。尤其术后3 d内易出现堵管,需经常用针筒进行正压冲洗加抽吸^[11]。一次性负压引流器借助负压

吸引机作用下形成密闭引流系统,负压吸引时可对淤积胆汁进行有效引流,减小胆道压力,避免脓性胆汁在导管壁发生依附,引流更为充分^[12],故每日引流量更高,导管堵塞率降低。

高淀粉酶血症与胰腺炎均为ERCP术后常见并发症,发生原因较为复杂,受到术者操作水平、患者自身因素等的影响^[13]。胆管梗阻与引流不畅是ERCP术后出现胆管炎的最主要原因,鼻胆管引流可通过引流排出残余的细小结石,从而降低胆管炎发生风险。本研究中观察组高淀粉酶血症发生率显著低于对照组,胆管炎与胰腺炎例数均少于对照组,但无统计学意义。观察组术后并发症总发生率为14.0%,显著低于对照组的40.0%。负压引流器的应用可更充分引流,利于维持胆汁通畅引流,避免细菌在胆道中繁殖及入血,避免造影剂反流入胰管,维持胰液通畅引流,从而有助于降低胆管炎与高淀粉酶

血症、胰腺炎发生率^[14]。

多项证据显示,ERCP患者行鼻胆管引流可能引起机体不适,包括消化道反应及腹痛、剑突下疼痛等^[15-17]。本研究中观察组腹痛、消化道不适、导管脱出的总发生率为4.0%,显著低于对照组的22.0%,证实负压引流器的应用可使患者获得更高舒适度。鼻胆管持续负压引流可使胆汁获得充分引流,促进胆道炎症消退,从而避免胆汁淤积与胆道炎症所引起的腹痛。另外,笔者认为,改良引流技术如积极预防并发症、重视导管护理、做好健康宣教,可从医护人员及患者双向确保导管顺利引流,减少导管脱出。值得注意的是,胆道局部负压过高可能会引起局部胆道闭合或鼻胆管开口粘贴于胆管壁^[18],故实际操作时应注重对负压压力的设置。本研究中将负压压力设置在较低水平,取得满意效果,可供参考。另外,随着观察组患者引流更充分,术后并发症也减少,为身体康复创造有利条件,住院时间缩短、费用减少。

综上所述,ERCP术后采用负压引流器进行鼻胆管引流,可实现充分引流,降低导管堵塞率,减少术后并发症与不适症状,配合改良引流技术可进一步减少导管脱出,确保引流通畅,利于促进患者恢复,缩短住院时间。

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