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低位胆道恶性梗阻性黄疸术前胆红素异常的处理策略探讨(附 134 例报告)*

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摘要 目的:探讨低位胆道恶性梗阻性黄疸患者术前胆红素异常的处理策略,以提高该类患者的临床疗效。**方法:**回顾性分析西京医院肝胆外科 2008 年 1 月 1 日 -2017 年 12 月 31 日收治的符合研究条件的 134 例低位胆道恶性梗阻性黄疸 (术前总胆红素≥ 171 μmol/L)患者,按胆红素水平分为中、重度黄疸组,分析和比较两组术前黄疸的处理方法、术后肝功能、并发症情况等。**结果:**两组患者胆道引流后总胆红素水平均明显低于引流前,而肝功能 Child-Pugh 分级比较差异均无统计学意义(P>0.05);两组行术前胆道引流患者与未行胆道引流患者的围手术期情况比较均无统计学差异(P>0.05);两组行术前胆道引流患者与未行胆道引流患者的手术并发症的发生情况比较均无统计学差异(P>0.05)。**结论:**对于低位胆道恶性梗阻性黄疸患者,无论中度黄疸还是重度黄疸,原则上术前不必行胆道引流。对于伴有脏器功能不全、急性炎症或其他暂不宜手术的患者,可先行胆道引流处理,限期手术。若行术前胆道引流,采用 PTCD 方式,更为简单安全有效。

关键词:恶性梗阻性黄疸;术前减黄;胰十二指肠切除术

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Treatment Strategy of Preoperative Bilirubin Abnormality in the Patients with Jaundice Caused by Malignant Obstruction in the Low Bile Duct (Report of 134 Cases)*

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ABSTRACT Objective: To explore the treatment strategy of preoperative bilirubin abnormality in patients with jaundice caused by malignant obstructive in the low bile duct and improve the clinical efficacy. **Methods:** The clinical data of 134 cases of patients with low malignant biliary obstructive jaundice (preoperative total bilirubin ≥ 171umol/L) admitted in the Department of Hepatobiliary Surgery of Xijing Hospital from January 1, 2008 to December 31, 2017 were retrospectively analyzed, these patients were divided into the medium and severe group according to the degree of jaundice, the preoperative treatment, postoperative liver function and complications were further analyzed. **Results:** After biliary drainage, the total bilirubin was significantly lower than those before biliary drainage, while no significant difference was found in the child-pugh classification of liver function (P>0.05) There was no statistically significant difference in the perioperative period between the preoperative biliary drainage(PBD) and the non-PBD (P>0.05). There was no statistically significant difference in the surgical complications between the PBD and the non-PBD group (P>0.05). **Conclusion:** For low biliary malignant obstructive jaundice patients don't need PBD in principle regardless of moderate jaundice or severe jaundice, but for the associated with organ dysfunction, acute inflammation, or other temporary unfavorable surgical patients can PBD, confine operation. If preoperative biliary drainage performed, PTCD method is more simple, safe and effective.

Key words: Malignant obstruction jaundice; Preoperative biliary drainage; Pancreaticoduodenectomy

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前言

低位胆道恶性梗阻性黄疸患者术前胆红素异常的程度随病程的长短而差异较大。黄疸可降低患者对手术的耐受力,增加患者术后的并发症发生率及死亡率,临床上对术前黄疸的处理原则随时间推移及临床证据的不断完善发生着认识观念的

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巨大变迁。本文主要回顾性分析了西京医院肝胆外科 2008 年 1 月 1 日 -2017 年 12 月 31 日收治的术前总胆红素大于 171 μmol/L 且符合研究纳入标准的 134 例低位胆道恶性梗阻性黄疸患者的临床资料，主要分析了术前黄疸的处理原则、方法、手术时机选择等。

1 资料与方法

1.1 一般情况

本研究共纳入 134 例患者，包括胰头癌 97 例，胆管远端癌 23 例，壶腹部癌 14 例；男性患者 88 例，女性患者 46 例。

1.2 入组标准

所有入组患者均经检查或活检，临床诊断为胰头癌、胆管远端癌、壶腹部癌或十二指肠乳头癌，同时合并梗阻性黄疸、总胆红素≥ 171 μmol/L；入组患者资料完整；除外同时合并急性胰腺炎、胆管炎、慢性胆道狭窄反复 ERCP 及支架置入者。

1.3 手术情况

所有患者均行胰十二指肠切除术，采用 Child 术式，胰肠吻合均采用胰管空肠吻合，胰管内常规放置支撑管，胆肠吻合均用 4-0 PDS 缝合。

1.4 统计学方法

采用 SPSS19.0 软件对研究中的数据资料进行统计学分析，计量资料均数以($\bar{x}\pm s$)表示，组间比较采用 t 检验，计数资料的组间比较采用卡方(x^2)检验，以 P<0.05 为差异具有统计学意义。

2 结果

2.1 分组与引流情况

按照干预治疗前黄疸的程度分为中度黄疸组 (总胆红素 171-342 μmol/L)和重度黄疸组(总胆红素 >342 μmol/L)；每组根据术前是否减黄再分为未引流组和引流组。中度黄疸组共 98 例，未引流组 86 例，男性 50 人，女性 36 人，年龄 42 岁 -80 岁，平均(58.63± 9.02)岁；引流组 12 例，男性 11 人，女性 1 人，年龄 39 岁 -72 岁，平均(55.00± 9.32)岁。重度黄疸组共 36 例，未引流组 21 例，男性 17 人，女性 4 人，年龄 28 岁 -87 岁，平均(60.71± 13.02)岁；引流组 15 例，男性 10 人，女性 5 人，年龄 43 岁 -73 岁，平均 (54.93± 8.84) 岁。引流组采用经皮肝穿刺引流(PTCD)12 例、鼻胆管引流(ENBD)7 例、胆囊穿刺引流 6 例、胆管支架引流 2 例；术前引流时间最短 2 天，最长 36 天，平均 13.11± 8.85 天。

2.2 术前胆道引流对肝功能的影响

中度及重度黄疸组引流前后的肝功能 Child-Pugh 分级差异均无统计学意义(P>0.05)。两组总胆红素在胆道引流前后差异有统计学意义，引流后总胆红素明显低于引流前，引流前后白蛋白及凝血酶原时间比较差异均无统计学意义(见表 1 和表4)。

2.3 患者围手术期情况比较

术前胆道引流组与未引流组中度黄疸患者干预前总胆红素、手术方法、手术时间、术中出血量、术中输注 RBC 量、术中输注血浆量、术后住院时间、患者年龄大小的差异均无统计学意义；重度黄疸患者术前胆道引流组与未引流组干预前总胆红素、手术方法、手术时间、术中出血量、术后住院时间、患者年龄构成间的差异均无统计学意义，而在术中输注 RBC 量、术中输注血浆量上差异有统计学意义，引流组的平均输注量均明显少于未引流组(见表 2 和表 5)。

2.4 患者术后并发症发生情况比较

中度黄疸患者术前胆道引流组与未引流组在术后胆漏、胰漏、腹腔出血、上消化道出血、切口裂开、胃肠功能障碍、肺部感染、血糖异常、总并发症发生率、术后 1 月内死亡率比较均无统计学差异。重度黄疸患者术前胆道引流组与未引流组在术后胆漏、消化道出血、肝衰、肺部感染、腹腔淋巴漏、总并发症发生率、术后 1 月内死亡率亦均无统计学差异(见表 3 和表 6)。

表 1 中度黄疸组胆道引流前后肝功能比较($\bar{x}\pm s$)

Table 1 Comparison of the liver function before and after biliary drainage in moderate jaundice group($\bar{x}\pm s$)

Classes		Before the drainage	After the drainage	t	P
Cases(n)		12	12	-	-
Total bilirubin(umol/L)		250.63± 37.71	105.04± 64.15	6.777	0.001
Albumin(g/L)		39.01± 2.81	39.28± 3.59	-0.209	0.837
Prothrombin time(s)		11.74± 0.76	11.34± 0.65	1.386	0.180
Child-Pugh grade	A	0	3	3.429	0.064
	B	12	9		

3 讨论

低位胆道恶性梗阻性黄疸临床常见的原发疾病有胰头癌、胆管下段癌、壶腹部癌及十二指肠癌。手术治疗的主要方式为胰十二指肠切除术，术前胆红素异常可能影响患者预后，但关于术前是否减黄以及持续时间多久效果更佳的争议较多。

3.1 术前胆道引流的利弊

目前，临床上根据总胆红素异常将黄疸分为轻度(34.2-171 μmol/L)、中度(171-342 μmol/L)和重度(>342 μmol/L)[1,2]，关于术前黄疸患者是否常规减黄及需要减黄的胆红素临界值的观点不一。刘巍等[3]指出术前血清总胆红素水平 >171 μmol / L、术前黄疸时间超过 8 周等是影响术后发生胰漏与否的独立危险因素。Harutoshi 等[4]研究显示术前减黄不能降低可切除的下端胆道恶性梗阻的病人的围手术期死亡率和并发症的发生率，甚至增加并发症的发生率。Chen 等[5]对 98 例低位胆道恶性梗阻行胰十二指肠切除术的患者进行研究，认为术前胆道引流可有

表 2 中度黄疸组患者围手术期情况比较($\bar{x}\pm s$)

Table 2 Comparison of perioperative status of patients with moderate jaundice($\bar{x}\pm s$)

Groups	Non-drainage group	Drainage group	t	P
Cases(n)	86	12	-	-
Total bilirubin before drainage(μmol/L)	245.48± 47.16	250.63± 37.71	-0.362	0.718
Operation time(min)	281.24± 71.50	251.25± 56.97	1.391	0.168
Blood loss in operative(mL)	698.84± 854.92	429.17± 226.09	1.083	0.282
RBC infusion volume(mL)	397.09± 645.09	216.67± 335.30	0.948	0.345
Plasma infusion volume(mL)	203.72± 392.13	140.83± 234.73	0.541	0.590
Postoperative hospitalization time(d)	13.38± 5.40	11.50± 52.20	1.190	0.237
Age (years)	58.63± 9.02	55.00± 9.32	1.300	0.197

表 3 中度黄疸组术后并发症发生情况比较[n(%)]

Table 3 Comparison of postoperative complications in the moderate jaundice group[n(%)]

Groups	Non-drainage group	Drainage group	x^2	P
Cases(n)	86	12	-	-
Bile leakage (case)	1(1.16%)	0	0.141	0.707
Pancreatic leakage (case)	2(2.33%)	0	0.285	0.594
Abdominal hemorrhage (case)	3(3.49%)	0	0.432	0.511
Upper gastrointestinal bleeding (example)	5(5.81%)	0	0.735	0.391
Incision infection (case)	0	1(8.33%)	7.241	0.007
Incision cleft (case)	2(2.33%)	1(8.33%)	1.281	0.258
Abnormal blood glucose (case)	2(2.33%)	0	0.285	0.594
Gastric dysfunction (case)	3(3.49%)	0	0.432	0.511
Pulmonary infection (case)	2(2.33%)	0	0.285	0.594
Complication rate %	23.26%	16.67%	0.263	0.608
Mortality in postoperative 1 month(case)	1	0	0.141	0.707

表 4 重度黄疸组胆道引流前后肝功能比较($\bar{x}\pm s$)

Table 4 Comparison of liver function before and after biliary drainage in severe jaundice group($\bar{x}\pm s$)

Classes		Before the drainage	After the drainage	t	P
Gases(n)		15	15	-	-
Total bilirubin(umol/L)		488.11± 124.00	147.40± 61.74	9.526	0.001
Albumin(g/L)		34.48± 3.11	35.56± 3.37	-0.912	0.369
Prothrombin time(s)		12.33± 1.76	11.51± 0.92	1.611	0.122
Child-Pugh grade	A	0	1	1.034	0.309
	B	15	14		

效改善肝功能,术后短时间内的并发症对术后黄疸和肝功能的改善有不良影响,胆道减压对预后没有影响。Manipadam 等[6]报道术前胆道引流(支架)对术后胰瘘的影响不明显;然而,胆道和胰腺支架并用的患者术后胰瘘的发生率明显高于无支架的患者。Ng ZQ 等[7]认为在胰十二指肠切除之前行术前胆道引流(支架)术增加了术后伤口感染和腹腔内聚集的风险。本研究将中度黄疸和重度黄疸按术前是否减黄处理进行分析,发现无论是中度黄疸还是重度黄疸行胆道引流的患者减黄前后肝脏功能

表 5 重度黄疸组患者围手术期情况比较($\bar{x}\pm s$)

Tabel 5 Comparison of perioperative status of patients with severe jaundice($\bar{x}\pm s$)

Groups	Non-drainage group	Drainage group	t	P
Cases(n)	21	15	-	-
Total bilirubin before drainage(umol/L)	426.01± 86.27	488.11± 124.00	-1.775	0.085
Operation time(min)	265.52± 82.72	252.07± 33.61	0.672	0.507
Blood loss in operative(ml)	535.71± 472.00	358.00± 392.38	1.192	0.241
RBC infusion volume(ml)	386.19± 498.70	66.67± 179.95	2.700	0.012
Plasma infusion volume(ml)	187.62± 267.56	34.67± 92.73	2.424	0.023
Postoperative hospitalization time(d)	14.05± 6.39	13.80± 4.49	0.129	0.898
Age (years)	60.71± 13.02	54.93± 8.84	1.489	0.146

表 6 重度黄疸组术后并发症发生情况比较[n(%)]

Tabel 6 Comparison of postoperative complications in severe jaundice group[n(%)]

Groups	Non-drainage group	Drainage group	x^2	P
Cases(n)	21	16	-	-
Bile leakage (case)	0	1(6.25%)	1.349	0.245
Upper gastrointestinal bleeding (case)	1(4.76%)	1(6.25%)	0.039	0.843
Pulmonary infection (case)	1(4.76%)	0	0.783	0.376
Abdominal lymphatic leakage (case)	1(4.76%)	0	0.783	0.376
Liver failure (case)	1(4.76%)	0	0.783	0.376
Complication rate %	19.05%	12.50%	0.287	0.592
Mortality in postoperative 1 month(case)	1	0	0.783	0.376

的 Child-Pugh 分级均无统计学差异,围手术期处理、术后并发症及 1 月内死亡率除切口感染及术中输血量有差异外其他均无统计学差异。

3.2 术前胆道引流指征判定

毕新宇等[8]认为对伴有总胆红素水平 >171 μmol / L 的壶腹周围癌患者,若能充分进行术前准备,一期行胰十二指肠切除手术利大于弊。兰忠民等[2]认为术前减黄对于中度梗阻性黄疸 (术前血清总胆红素水平 171～342 mmoL/L) 患者的价值有限,患者术前可不行减黄治疗,明确诊断后应尽早手术。陈东等[9]研究表明低位恶性胆道梗阻患者,术前胆红素 >340 μmoL / L 时术后并发症的发生率显著增加,但术前减黄并未降低术后并发症的发生率,术者的技术和操作熟练程度可能影响术后并发症的发生。Pavlidis 等[10]认为围手术期的管理是改善黄疸病人特别是恶性肿瘤患者术后预后的一项重要措施。全志伟等[11]建议采用以下原则作为减黄标准:① 血清胆红素 <171 μmol/L 的患者不行减黄直接手术;② 血清胆红素在 171-340 μmol/L 之间者,大多不予减黄,伴有胆道感染,基础疾病以及年龄 >65 岁者,施行减黄;③ 血清胆红素 >340 μmol/L 者,常规术前减黄。本研究中,无论中度黄疸组还是重度黄疸组在胆道引流后手术和未行胆道引流直接手术的术后并发症统计学上无明显差异,但数据上未引流组高于引流组。

3.3 术前胆道引流方法的优劣

Liu P 等[12]认为对壶腹部癌患者术前胆道引流(preoperative biliary drainage,PBD) 采用金属支架的内镜再干预和胆管炎的发生率明显低于塑料支架, 但在术前胰腺炎的发生率方面,塑料支架明显优于金属支架。Togawa O 等[13]指出 PBD 在可切除的胰头癌患者中是可行的,;在没有延迟手术的情况下,全覆盖自膨胀金属支架 (fully covered self-expandable metallic stent, FCSEMS)的放置是一种可替代的 PBD 技术。Ahn KS 等[14]研究指出对壶腹部癌(Ampulla of Vater,AOV)接受内镜逆行胆道引流(ERBD)和经皮经胆管引流术(PTBD)及未行引流患者相比预后较差;尤其是早期 AOV 癌症患者,术前 ERCP 患者在 1 年内有明显较高的早期远处转移率; 建议在 AOV 癌症患者中应避免不必要的 ERCP;如果必需行胆道引流,选择 PTBD 优先于 ERBD。Dorcaratto D 等[15]认为在等待胰十二指肠切除术的壶腹周围癌(如胰腺腺癌、远端胆管癌和十二指肠肿瘤)患者中,术前经皮胆道引流与内镜下引流相比,与手术相关的或术后并发症的发生率更低。高立兵等[16]研究后指出对于低位恶性梗阻性黄

疸患者,PTCD 介入治疗是一种相对简单、安全有效的治疗方法。Lee PJ 等[17]比较四种术前黄疸处理方法(术前胆道塑料支架引流、术前胆道金属支架引流、经皮经肝穿刺胆道引流,无术前胆道引流)在可切除胰腺癌行胰十二指肠切除术患者术后并发症的发生率,结果提示无术前胆道引流可能是对此类患者术前黄疸的最佳治疗。Duan F 等[18]研究后提出不同的观点:建议在临床实践中,根据梗阻位置、引流目的(术前程序或姑息治疗)和个人治疗中心胆道引流的经验,选择 PTBD 或 EBD。本研究中,行 PBD 的患者共 27 例,其中经皮肝穿刺引流(PTCD)12 例、鼻胆管引流(ENBD)7 例、胆囊穿刺引流 6 例、胆管支架 2 例,平均引流 2 周,未发现与引流相关的并发症。

3.4 术前胆道引流时间的决策

术前胆道引流持续多长时间为佳,目前认识不同。Sewnath 等[19]的研究认为恶性梗阻性黄疸 PBD 最少 4-6 周,受损的肝功能才能恢复。田伏洲等[20]建议以减黄后连续 2 周 TB 递减 30% 以上作为手术指征。王志刚等[21]指出术前减黄的时间依据减黄的效果而定,一般为 2-3 周。本研究中采用胆道引流减黄的患者术前引流时间最短 2 天,最长 36 天,平均 13.11± 8.85 天。

综上所述,我们认为对于低位胆道恶性梗阻性黄疸患者,无论中度黄疸还是重度黄疸原则上术前不必行胆道引流处理,但对于伴有脏器功能不全、急性炎症或其他暂不宜手术的患者可先行胆道引流处理,同时改善患者体质,限期手术。若行术前胆道引流,采用 PTCD 方式更为简单安全有效。

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