

DOI:10.3724/SP.J.1008.2013.00261

内镜下同期胆、肠双金属支架置入治疗胆管及十二指肠恶性梗阻

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[摘要] **目的** 探讨恶性胆、肠梗阻患者内镜下同期实施胆、肠双自膨胀金属支架(self-expanding metallic stent, SEMS)治疗的策略、方法及其安全性和有效性。**方法** 回顾性分析 2009 年 1 月至 2012 年 6 月我院收治的阻塞性黄疸合并十二指肠恶性狭窄行内镜下同期置放胆、肠双 SEMS 患者的临床资料,分析内镜操作的成功率及并发症、术后黄疸消退及胃流出道梗阻评分系统(GOOSS)评分情况。**结果** 共收治 10 例同期放置胆、肠双 SEMS 的患者,包括胰腺癌 5 例、胆囊癌 2 例、胆管癌 2 例及十二指肠乳头癌 1 例。5 例 I 型肠狭窄(病变未侵及十二指肠乳头)患者置入肠道 SEMS 后再行内镜逆行胆胰管造影(ERCP)成功放置胆道 SEMS。另 1 例 I 型肠狭窄患者放置长度 9 cm 的肠道 SEMS 后,再行超声内镜下逆行胆胰管造影(EACP),经超声内镜引导下胆管引流(EUS-BD)放置胆道 SEMS; 3 例 II 型狭窄(病变侵及十二指肠乳头)患者行 EACP,经 EUS-BD 放置胆道 SEMS 后,再经内镜置入肠道 SEMS。1 例 III 型肠狭窄(远离十二指肠乳头)患者分别置入胆、肠 SEMS。内镜操作成功率为 100%。内镜操作术中 2 例 I 型肠狭窄患者在内镜通过肠狭窄段时有肠壁自限性出血,未发生持续出血或穿孔等与内镜操作相关的并发症。黄疸消退及 GOOSS 评分改善明显。**结论** 对于胆道梗阻合并十二指肠狭窄不能手术切除患者,结合不同的内镜处理方式同期置入胆、肠双 SEMS 姑息性解除胆、肠梗阻是可行且安全、有效的。

[关键词] 内镜逆行胆胰管造影术;腔内超声检查;逆行胆胰管造影术;引流术;胆道恶性梗阻;十二指肠恶性梗阻

[中图分类号] R 656.64; R 657.4 **[文献标志码]** A **[文章编号]** 0258-879X(2013)03-0261-05

Simultaneous stenting in bile duct and duodenum under endoscope for treatment of malignant biliary and duodenal obstruction

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[Abstract] **Objective** To investigate the therapeutic strategies, methods, safety and efficacy of simultaneous placement of self-expanding metallic stent (SEMS) in the bile duct and duodenum under endoscope for treatment of malignant biliary and duodenal obstruction. **Methods** The clinical data of patients with obstructive jaundice combined with severe duodenal stricture, who were treated with simultaneous placement of biliary SEMS and duodenal SEMS under endoscope during January 2009 to June 2012, were retrospectively analyzed. The success rate of endoscopic management, complications, relief of jaundice and results of gastric outlet obstruction scoring system (GOOSS) were analyzed. **Results** Totally ten patients meeting the criteria were analyzed in this study. The patients included 5 cases with pancreatic cancer, 2 with gallbladder cancer, 2 with cancer of bile duct and one with duodenal papilla cancer. Five patients with type I duodenal stricture (without invading duodenal papilla) successfully received biliary stents through endoscopic retrograde cholangiopancreatography (ERCP) after placement of duodenal stents. One patient with type I duodenal stricture was implanted with a 9 cm duodenal stent before endoscopic anterograde cholangiopancreatography (EACP), then a SEMS was implanted in the bile duct through endoscopic ultrasonography-guided biliary drainage (EUS-BD). Three patients with type II duodenal stricture (with invading duodenal papilla) underwent EACP and biliary stent placement through EUS-BD, and then the duodenal stent was deployed in duodenum after EACP. The patient with type III (away from the duodenal papilla) was implanted with biliary and duodenal stents. The success rate of endoscopic management was 100%. Two patients had self-controlled bleeding of intestinal mucosa, which was caused by endoscope friction when passing through the duodenal stricture, but without any continuous bleeding or perforation. Symptoms of jaundice and gastric outlet obstruction were greatly relieved after treatment. **Conclusion** For patients with unresectable malignant biliary obstruction combined with duodenal stricture, endoscopic placement of SEMS in the bile duct and duodenum simultaneously is a

[收稿日期] 2012-10-19 **[接受日期]** 2012-11-15

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safe and effective method to palliate dual malignant obstruction via different endoscopic managements.

[Key words] endoscopic retrograde cholangiopancreatography; endosonography; antegrade cholangiopancreatography; drainage; malignant biliary obstruction; malignant duodenal obstruction

[Acad J Sec Mil Med Univ, 2013, 34(3): 261-265]

阻塞性黄疸合并十二指肠恶性梗阻常由进展期、转移性肿瘤侵犯十二指肠或十二指肠原发肿瘤所致,此类病灶多因无法手术切除而行内镜下姑息治疗,但是十二指肠重度狭窄患者往往因内镜无法通过肠狭窄段放弃内镜治疗,而考虑姑息性胃-空肠吻合术和经皮穿刺胆管引流等体外置管方式解除梗阻,术后患者创伤大、生活质量差。放置自膨胀金属支架(self-expanding metallic stent, SEMS)是解除胆、肠梗阻最有效的姑息性治疗方法,能明显提高患者的整体生活质量^[1-3]。肠道 SEMS 置入能解除十二指肠梗阻,且肠道经金属支架扩张完全后也能为十二指肠镜到达主乳头治疗提供便利^[4-5],但肠道支架置入后,往往会遮盖十二指肠乳头而影响胆管插管,因此,同期置放胆、肠双 SEMS 因操作困难在临床上少有应用。

本研究回顾性分析了本院收治的内镜下同期放置胆、肠双 SEMS 的胆、肠恶性狭窄患者的临床资料,探讨如何通过内镜操作解除胆、肠梗阻,以及同期置放胆、肠双 SEMS 的处理策略、方法及技巧。

1 资料和方法

1.1 入选标准 选择 2009 年 1 月至 2012 年 6 月在我院行内镜逆行胆胰管造影(ERCP)同期放置胆、肠双 SEMS 的患者,入选患者同时出现胆道及十二指肠恶性狭窄,柱状球囊扩张肠狭窄后内镜仍不能通过肠腔;病变广泛转移、合并基础疾病、身体条件差,不考虑手术;临床上出现恶心、呕吐等症状,进食流质或无法进食。

1.2 十二指肠恶性狭窄分型 根据相对于十二指肠乳头解剖学位置分为 3 型。I 型狭窄:十二指肠球部近幽门狭窄(病变未侵及十二指肠乳头);II 型狭窄:十二指肠降段乳头水平部狭窄(病变侵及十二指肠乳头);III 型狭窄:位于屈氏韧带近侧肠狭窄(远离十二指肠乳头)。

1.3 手术过程 所有患者术前均签署知情同意书。采用 Olympus JF-240 或 JF-260V 型电子十二指肠镜,患者取俯卧位,术中采用选择性丙泊酚靶控输注静脉麻醉。根据十二指肠恶性狭窄类型采取不同的治疗方案,术后常规应用抑酸及广谱抗生素。

1.3.1 I 型肠狭窄 肠狭窄段用柱状大球囊扩张后仍不能通过的患者,先行肠道 SEMS 置入,再行肠道 SEMS 置入(图 1)。(1)确定肠狭窄段位置及长度:在 X 线透视下,导丝通过十二指肠狭窄段,球囊顺导丝至远端肠腔,回拉膨胀球囊至狭窄段行球囊造影,充分了解肠狭窄段位置及长度。(2)置入肠道 SEMS:选择合适长度的十二指肠 SEMS (WallFlex[®], Boston Scientific,直径 22 mm)后用生理盐水冲洗润滑,输送系统顺导丝插入,使 SEMS 两端超过梗阻段 1~2 cm,确认无误后缓慢释放 SEMS。在透视和内镜监控下,注意内镜下 SEMS 近端置放位置保持不变,必要时随时调整输送器插入的深浅,直至 SEMS 完全释放。(3)柱状大球囊扩张肠 SEMS:将柱状球囊(Boston Scientific,直径 15~20 mm,长 5.5 cm)置于肠 SEMS 腔内,注入稀释造影剂,采用带压力表的注射器缓慢逐级加压使球囊膨胀,直至透视下气囊腰部狭窄消失并维持 1 min 左右,以使肠道 SEMS 充分有效扩张。(4)置入胆道 SEMS:3~5 d 后肠道 SEMS 完全扩张,之后再插入十二指肠镜,缓慢旋进内镜穿过完全扩张的肠 SEMS 腔,如肠道 SEMS 未覆盖十二指肠乳头,则实施胆管插管放置胆管 SEMS。

1.3.2 II 型肠狭窄 先行超声内镜引导下胆管引流术(endoscopic ultrasonography-guided biliary drainage, EUS-BD)放置胆道 SEMS,再置入肠道 SEMS(图 2)。在 Olympus GF-UCT240 超声内镜下找到扩张的胆管,穿刺针(EUS N-19-T; Cook)穿刺引导导丝进入扩张胆总管,行超声内镜下逆行胆胰管造影(endoscopic antegrade cholangiopancreatography, EACP),X 线透视下导丝向下进入十二指肠壶腹部,退出穿刺针,用扩张探条扩张穿刺口,并用直径 6 mm 的柱状气囊扩张胆管狭窄段后,循导丝置入胆道 SEMS,完成 EUS-BD。再行肠道 SEMS 放置。

1.3.3 III 型肠狭窄 分别放置胆、肠 SEMS(图 3),以十二指肠乳头作为肠道支架放置终点标志。

1.4 疗效评价及随访 总结不能手术切除的胆、肠恶性梗阻患者内镜下放置胆、肠双 SEMS 的成功率及术后并发症情况;随访术后 1 周及 1 个月黄疸消

退情况和胃流出道梗阻评分系统(gastric outlet obstruction scoring system, GOOSS)评分情况^[6]。技术成功定义为胆、肠双 SEMS 通过胆、肠恶性梗阻段

后扩张完全。GOOSS 评分标准(0~3分):0分,不能进食;1分,仅能进食流质;2分,进食软食;3分,低渣饮食。GOOSS 评分增加1分为有效。

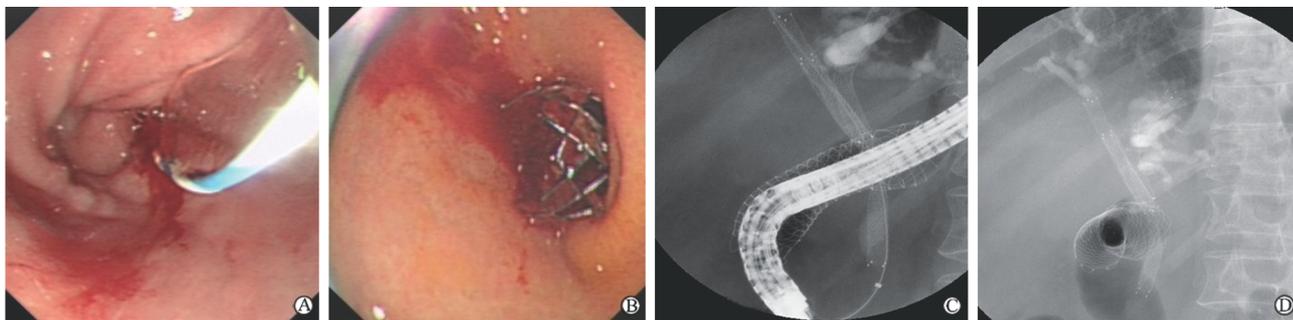


图1 I型十二指肠狭窄:通过肠道 SEMS 放置胆道 SEMS

Fig 1 Type I duodenal stricture: placement of a biliary SEMS through duodenal SEMS

SEMS: Self-expanding metallic stent. A: Guidewire passing through a narrow segment of the duodenal bulb; B: Placement of a 6 cm duodenal SEMS, with the proximal end near the pylorus orifice; C: Endoscopic biliary SEMS placement via the duodenal SEMS; D: Satisfactory bile and duodenal SEMS expansion under fluoroscopy

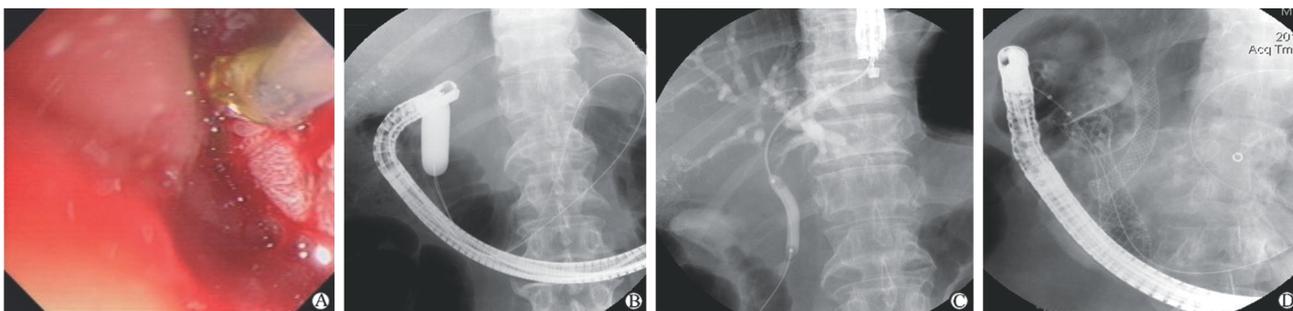


图2 II型十二指肠狭窄:先行 EUS-BD 放置胆道 SEMS,再置入肠道 SEMS

Fig 2 Type II duodenal stricture: biliary SEMS was implanted by EUS-BD and then duodenal SEMS was placed

EUS-BD: Endoscopic ultrasonography-guided biliary drainage; SEMS: Self-expanding metallic stent. A: Duodenal obstruction, endoscope could not pass; B: Expansion of the narrow segment with 15 mm balloon failed to pass endoscope; C: Puncture needle passed the stomach wall to the expanded bile duct for endoscopic antrograde cholangiopancreatography, and then bile duct stricture was expanded; D: After biliary SEMS implantation, the duodenal SEMS was placed



图3 III型十二指肠狭窄:分别放置胆道、肠道 SEMS

Fig 3 Type III duodenal stricture: biliary and duodenal stents were placed separately

SEMS: Self-expanding metallic stent. A: Duodenal SEMS was placed first, and then the biliary SEMS was placed; B: Duodenal and biliary SEMS had satisfactory expansion 1 month later

2 结果

2.1 总体情况 共有10例患者同期完成内镜下胆、肠双 SEMS 放置,男5例、女5例,年龄43~79岁,平均(65.6±8.5)岁。包括胰腺癌5例,胆囊癌2例,胆管癌2例,十二指肠乳头癌1例。十二指肠狭窄段长度约1~4 cm;狭窄分型:I型6例,II型3例,III型1例。内镜下均成功放置胆、肠双 SEMS,成功率为100%,且患者均能耐受。

2.2 手术方式 I型肠狭窄患者中有5例放置长度6 cm的肠道 SEMS后,内镜经肠 SEMS 腔行 ERCP放置胆道 SEMS;另1例I型肠狭窄放置长度9 cm肠道 SEMS后,行 EACP放置胆道 SEMS。

3例Ⅱ型肠狭窄患者行EUS-BD放置胆道SEMS,同期行肠道SEMS置放。Ⅲ型肠狭窄分别置放胆、肠SEMS。

2.3 GOOSS评分情况 6例患者术后GOOSS评分改善2分,4例患者改善1分。从术前不能进食或进食流质到术后进食软食或低渣饮食,饱胀恶心、呕吐均有好转,均能经口摄入食物。患者术后肠梗阻症状及黄疸得到有效缓解。

2.4 不良反应及并发症发生情况 2例Ⅰ型肠狭窄患者肠道SEMS置入后,内镜再插入肠狭窄段时,出现术中自限性出血,未发生持续出血、穿孔或支架移位等并发症。2例患者早期(<1个月)出现发热、轻度胆管炎症状,均经治疗后好转。

3 讨论

随内镜诊疗技术的进展,ERCP在阻塞性黄疸治疗中发挥着越来越重要的作用。然而,晚期胰头癌或胆囊癌等患者在胆管梗阻时常伴有肠壁浸润、组织增生引起的十二指肠梗阻。国外文献报道,放置胆道支架后再出现十二指肠梗阻较常见,约为61%,其中约有18%患者同时出现十二指肠和胆道梗阻^[7]。十二指肠轻度狭窄患者可通过改变体位(侧卧位/仰卧位)或压迫上腹部及导丝引导等方法引导十二指肠镜进一步插入。对于十二指肠重度狭窄患者,在X线透视下,可用柱状球囊扩张狭窄肠腔后再插入内镜的方式完成ERCP减黄^[8]。然而,采取以上方式仍无法通过者往往只能放弃内镜治疗。

本组10例患者均同时出现胆、肠恶性梗阻,通过柱状球囊扩张重度肠狭窄后仍不能插入内镜,再尝试置入SEMS解除胆、肠梗阻,所有患者内镜操作均成功。其技术难点在于:肠道SEMS的置入增加了乳头插管及胆管支架的置入难度。因此,肠道SEMS的释放位置及长度控制尤为重要。在行肠道扩张及放置肠道SEMS前,采用球囊堵塞造影充分评估肠狭窄的位置及长度能有效提高操作成功率。

在选择肠道SEMS长度有效性的同时,应充分考虑下一步ERCP操作的可能性,尽量避免肠支架网眼覆盖主乳头开口,在不覆盖情况下行ERCP并不困难。因此,对于Ⅰ型肠狭窄,不但要考虑支架近端长度,更要控制支架下端近十二指肠乳头的长度,短的肠支架有利于内镜通过。本组5例Ⅰ型肠狭窄的患者选择长度6cm的肠道SEMS,3~5d支架充分扩张后,内镜均能顺利通过扩张的肠支架腔,完成

ERCP下放置胆道SEMS。

肠恶性狭窄段的长度同样可能影响ERCP操作。本组中1例Ⅰ型肠狭窄患者,肠壁浸润范围大、梗阻段长,约4cm。置入长度9cm的肠道SEMS,支架网眼覆盖住主乳头且长支架使得ERCP操作变得十分困难。因此,对于Ⅰ型肠狭窄肠支架覆盖住主乳头的此例患者及本组中3例侵及乳头的Ⅱ型肠狭窄患者均采用EACP,在EUS引导下放置胆管SEMS,支架置入位置与传统的ERCP相同,恢复胆汁的正常生理流向。相比经皮穿刺引流,该方法不需皮肤造口,减轻了患者痛苦,且不受患者肥胖的限制,可在ERCP无效时立刻进行,一次性完成胆、肠双SEMS置入。经皮经肝穿刺放置胆管金属支架内引流虽可避免外引流累赘的引流导管及胆汁的流失,但其穿刺技术也可能会导致出血、肿瘤经穿刺窦道种植转移或腹膜转移等^[9-11]严重并发症。EUS-BD需超声内镜穿刺装置及技术,内镜操作者必须同时具备上述条件才能完成操作。先置入肠道SEMS可能会增加行EUS-BD时导丝顺利通过十二指肠乳头难度。因此,Ⅱ型肠狭窄考虑先置入胆道SEMS再置入肠道SEMS。

对于Ⅲ型肠道狭窄,胆道SEMS与肠道SEMS释放互不相关,处理相对简单,一般先置入胆道SEMS,后放置肠道SEMS,以十二指肠乳头作为肠道SEMS放置的终点标志。

国外有报道肠道SEMS操作及通过十二指肠支架腔放置胆管SEMS有其可能性。有报道尝试使用柱状球囊扩张、切开刀或鼠齿钳使支架“网眼”移位,或用氩离子凝固术(APC)烧灼肠道支架金属网暴露主乳头,再行ERCP,操作耗时且困难大,成功率低^[12]。但即使插管成功,通过肠道SEMS“网眼”放置胆管SEMS也极为困难。Moon等^[13]研制了新型改良十二指肠镍钛合金SEMS(展开的内径为22mm,长6~14cm),肠道SEMS分为2型,分别在中心或侧边由长3cm的十字交叉不固定结构代替固定的交叉网状结构分型,对于Ⅰ型肠狭窄放置侧边型支架,而Ⅱ型肠狭窄(影响及乳头型)放置中心型支架。研究者认为通过不固定的“网眼”放置胆管支架插入容易。新型支架放置胆管SEMS操作简单且安全有效,并且可应用于有十二指肠恶性梗阻但尚未出现胆管梗阻者。

支架置入可能会出现相关的出血、穿孔及脓毒血症等严重并发症^[4-6]。对于肠道支架安全性需谨

记的是:肠道支架可能会引起十二指肠穿孔。支架两端位置应避免与肠壁形成角度,支架两端侧顶住肠壁会出现溃疡、出血甚至穿孔。内镜下放置肠道 SEMS 时,应用缓慢旋进内镜谨慎操作。本组仅 2 例患者在肠道 SEMS 置入后发生自限性出血,未出现大出血及穿孔等严重并发症,但仍需更多的病例来证实。另外,肠道 SEMS 近端可位于幽门管或十二指肠球部,我们的经验是,通常肠道 SEMS 近端位置在幽门口的患者舒适度较十二指肠球部更好。

Kim 等^[14]对 213 例置入肠道 SEMS 后的患者进行化学治疗,认为化疗能延长 SEMS 的开放时间,但也增加 SEMS 的移位率。Telford 等^[15]更认为置入 SEMS 后,化疗是延长 SEMS 通畅期的独立相关因素。但对于同时出现胆、肠梗阻,SEMS 解除梗阻后化疗是否同样延长胆、肠 SEMS 通畅期,尚需进一步研究证实。

本研究样本量尚少,仍有待在临床实践中进一步总结经验。本组同期胆、肠双 SEMS 内镜操作成功率达 100%,且无严重并发症。我们认为,对于柱状球囊扩张肠狭窄后内镜仍无法通过狭窄段的患者,内镜医生可通过尝试十二指肠镜及超声内镜等内镜方式及不同处理策略完成胆、肠双 SEMS 姑息性解除胆、肠梗阻,谨慎实施治疗仍是安全、有效的。

4 利益冲突

所有作者声明本文不涉及任何利益冲突。

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