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• 临床研究 Clinical research •

X 线透视下经肛肠梗阻导管置入桥接腹腔镜手术治疗乙状结肠扭转

郭永团, 李德春, 王光明, 权斌, 杜洪涛

【摘要】目的 探讨 X 线透视下经肛肠梗阻导管置入桥接腹腔镜手术在乙状结肠扭转患者中的应用价值。**方法** 回顾性分析徐州市中心医院 2014 年 1 月至 2023 年 10 月收治的 21 例未发生肠坏死的乙状结肠扭转患者资料。先行 X 线透视下肠梗阻导管置入治疗, 症状消失后行腹腔镜下乙状结肠切除

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手术。统计介入操作成功率、介入操作时间、24 h 临床症状缓解率、介入并发症发生率、中转急诊外科手术率、置管至腹腔镜手术时间,术中肠道情况,术后吻合口瘘、吻合口感染发生率,围手术期病死率。**结果** 21 例患者介入操作成功率 100%,介入操作时间(9.9 ± 2.5) min,24 h 肠扭转症状缓解率 100%,21 例患者均未出现肠穿孔、肠出血等介入操作并发症,无一例中转外科急诊手术,置管至腹腔镜手术间隔(9.0 ± 2.8) d,术中乙状结肠扭转均已复位,肠壁均无明显充血、水肿,术后 1 例患者出现吻合口感染,对症处理后痊愈,均未发生吻合口瘘,围手术期无死亡病例发生。**结论** X 线透视下肠梗阻导管置入治疗乙状结肠扭转介入操作简单、安全、有效,将急诊手术转为择期腹腔镜乙状结肠切除一期肠吻合手术,术后并发症发生率、围手术期病死率低。

【关键词】 乙状结肠扭转;介入放射学;腹腔镜

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Fluoroscopy-guided placement of transanal decompression tube as a bridge measure in laparoscopic surgery of sigmoid volvulus GUO Yongtuan, LI Dechun, WANG Guangming, QUAN Bin, DU Hongtao. Department of Radiology, Xuzhou Municipal Central Hospital, Xuzhou, Jiangsu Province 221009, China

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【Abstract】 **Objective** To investigate the application value of fluoroscopy-guided placement of transanal decompression tube as a bridge measure in laparoscopic surgery of sigmoid volvulus. **Methods** The data of 21 patients with sigmoid volvulus without intestinal necrosis, who were admitted to the Xuzhou Municipal Central Hospital of China from January 2014 to October 2023, were retrospectively analyzed. The patients received fluoroscopy-guided placement of transanal decompression tube first. After the clinical symptoms disappeared, laparoscopic sigmoid resection was carried out. The success rate of interventional operation, time spent for interventional procedure, postoperative 24-hour remission rate of clinical symptoms, incidence of interventional complications, frequency of transferring to emergency surgery, time from tube placement to laparoscopic surgery, intraoperative intestinal conditions, incidence of postoperative anastomotic fistula and anastomotic infection, and perioperative mortality were calculated. **Results** The success rate of interventional operation in 21 patients was 100%, the mean time spent for interventional procedure was (9.9 ± 2.5) min, and the postoperative 24-hour remission rate of clinical symptoms was 100%. No interventional complications such as intestinal perforation or intestinal bleeding occurred in all the 21 patients. None of the patients was transferred to emergency surgery. The mean time from tube placement to laparoscopic surgery was (9.0 ± 2.8) days. During the operation, the restoration of sigmoid volvulus was accomplished in all patients. No obvious congestion or oedema of the intestinal wall was observed. Postoperative anastomotic infection occurred in one patient, which was cured after symptomatic treatment, and no anastomotic fistula occurred in all patients. No perioperative death occurred. **Conclusion** For the treatment of sigmoid volvulus, fluoroscopy-guided placement of transanal decompression tube is technically-simple, clinically safe and effective, and the emergency surgery can be replaced by selective laparoscopic sigmoid resection surgery with one-stage intestinal anastomosis. The incidences of postoperative complications and perioperative mortality are very low.

【Key words】 sigmoid volvulus; interventional radiology; laparoscope

结肠扭转是世界上第三大最常见的结肠梗阻病因,而乙状结肠是肠扭转最常见的部位,占 60%~75%,多见于老年男性,常合并有高血压、糖尿病、心血管疾病等^[1-4]。临床处理不及时,疾病进展会导致腹膜炎、肠穿孔,甚至死亡。本研究对无肠坏死的乙状结肠扭转患者先行 X 线透视下肠梗阻导管置入,对扩张的肠道进行减压、引流、冲洗,解除肠道梗阻,

然后行腹腔镜下乙状结肠切除一期吻合手术,取得了良好效果,报道如下。

1 资料与方法

1.1 临床资料

选择 2014 年 1 月至 2023 年 10 月徐州市中心医院收治的乙状结肠扭转患者 21 例,其中男性 17

例,女性 4 例,年龄(69.7 ± 18.8)岁。症状为腹痛、腹胀、肛门停止排粪排气,所有患者均行血常规、腹部立卧位 X 线片及腹部 CT 检查。腹部立位片见扭转肠襻显著扩张,从盆腔向上延伸至中腹部,甚至抵达膈下,其下方出现两个巨大液平面,呈马蹄征;腹部 CT 见左下腹乙状结肠系膜连同其血管纠集,呈漩涡征(图 1 ①②)。所有患者均无肠坏死:血流动力学不稳定、肠穿孔、腹膜炎体征。

1.2 方法

1.2.1 X 线透视下肠梗阻导管置入 患者左侧卧位,X 线透视下经肛置入泥鳅导丝(Terumo 公司,日本)和单弯导管(Cordis 公司,美国)至乙状结肠梗阻段。退出导丝,经单弯导管注入碘海醇对比剂,扭转肠管呈鸟嘴状,再次经导管引入导丝,导丝通过扭转点,跟进导管,退出导丝,经导管注入碘海醇,见对比剂弥散于扩张肠腔。交换泥鳅加硬导丝,退出导管,沿导丝置入经肛肠梗阻导管(Create Medic 公司,日本),前端位于扩张肠腔。向导管气囊注射阀注入 30 mL 无菌蒸馏水,使肠梗阻导管前端气囊充满,防止脱出(图 1 ③④)。打开出口,使扩张肠腔内气体和粪便自行引流出体外。

介入操作结束回病房后,经肠梗阻导管注入 0.9%氯化钠溶液 250 mL,对肠道进行间断冲洗与引流,待患者症状缓解或消失,自主排气后,复查腹部立位片(图 1 ⑤)。置管后 24 h 患者症状无明显缓解或加重者,则转为急诊手术。

1.2.2 腹腔镜乙状结肠切除手术 患者乙状结肠扭转症状消失,糖尿病、高血压、心肺疾病、电解质紊乱等基础疾病控制良好后,择期行乙状结肠切除一期吻合术。

1.2.3 观察指标 介入操作成功率、介入操作时间、24 h 临床症状缓解率、介入并发症(肠穿孔、肠出血)发生率、中转急诊外科手术率、置管至腹腔镜手

术时间,术中肠道复位和水肿等情况,腹腔镜术后并发症(吻合口瘘、吻合口感染等)发生率,以及围手术期病死率。

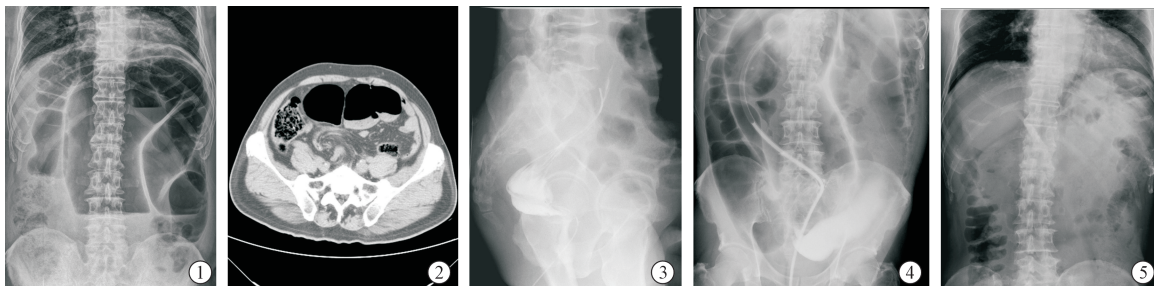
2 结果

21 例患者介入操作成功率 100%,介入操作时间 $6 \sim 16$ min [(9.9 ± 2.5) min],24 h 肠扭转症状缓解率 100%。21 例患者均未出现肠穿孔、肠出血等介入操作并发症,无一例中转外科急诊手术。置管至腹腔镜手术间隔 $4 \sim 14$ d [(9.0 ± 2.8) d],术中乙状结肠扭转均已复位,肠壁均无明显充血、水肿,术后 1 例患者出现吻合口感染,对症处理后痊愈,均未发生吻合口瘘,围手术期无死亡病例发生。

3 讨论

乙状结肠冗长或系膜附着根部狭小是发生乙状结肠扭转的解剖学基础,系膜血管受压发生绞窄,病情发展可致肠坏死或穿孔。乙状结肠扭转治疗方法包括手术治疗和非手术治疗。对于无肠坏死的患者,非手术治疗主要采用结肠镜复位、直肠插管或钡剂灌肠。钡剂灌肠和直肠插管的复位成功率较低,且并发症多、复发率和病死率较高,临床上已较少应用,现在主要采取肠镜下复位^[1-7]。乙状结肠扭转内镜下复位有效率为 60%~95%,但复发率为 43%~75%,且有 4% 的并发症发生率和 3% 的病死率^[1-2]。乙状结肠扭转的手术方式主要有:乙状结肠复位手术、Hartmann 手术、乙状结肠切除一期吻合术。其中,乙状结肠切除一期吻合复发率低、创伤小、恢复快,是防止扭转复发的理想术式,但由于左半结肠局部血供和肠道细菌的特殊性,乙状结肠切除一期吻合口瘘和病死率较高^[8]。

肠梗阻导管分经鼻型和经肛型,经鼻型肠梗阻



①肠梗阻导管置入前腹部立位片:肠腔扩张、气多液平面,并见马蹄征;②肠梗阻导管置入前腹部 CT 见漩涡征;③X 线透视下单弯导管插至扭转点,注入造影剂,见肠腔变细,呈鸟嘴征;④肠梗阻导管置入扩张肠腔,前端气囊注入蒸馏水,防止导管脱出;⑤肠梗阻导管置入后第 5 天,复查腹部立位片,乙状结肠扭转征象消失

图 1 一例男性 78 岁患者影像学表现

导管用于治疗小肠梗阻,经肛型肠梗阻导管用于治疗大肠梗阻^[9-10]。对于无肠坏死的乙状结肠扭转患者,X线透视下肠梗阻导管置入桥接腹腔镜乙状结肠切除,既解除了梗阻,又防止了乙状结肠扭转复发^[11-12]。

X线透视下肠梗阻导管置入解除乙状结肠扭转梗阻。乙状结肠发生扭转后,肠腔逐渐扩张,肠腔内压力逐渐增加,这导致肠壁毛细血管灌注减少,而乙状结肠系膜血管扭转受压会形成血栓,使组织缺血。早期黏膜缺血可促进细菌易位和产生气体,从而进一步增加结肠扩张和中毒现象。肠道如果不及时减压,就会形成恶性循环,导致结肠坏死和缺血再灌注损伤^[13]。本研究中的介入操作均成功,未出现肠出血、肠穿孔等介入操作相关并发症,置管 24 h 内肠扭转症状均明显缓解或消失。因此,与肠镜下乙状结肠扭转复位相比,X线透视下肠梗阻导管置入有以下优点:①安全性高,并发症少。泥鳅导丝前端较肠镜柔软,减少了操作过程中对肠壁的摩擦。②疗效显著。肠梗阻导管除前端开口外,还有 4 个较大侧孔,能够将肠腔积气、积液及粪便引流干净,且置管成功后可留置于肠腔内,对肠道进行充分冲洗。③介入操作成功率高。乙状结肠的扭转点管壁柔软,泥鳅导丝、单弯导管和肠梗阻导管很容易通过扭转点。④介入操作简单、用时短。乙状结肠扭转点距离肛门较近,直肠位置走行较为固定,侧位 X 线透视下,直肠位于骶尾骨前缘,导丝、导管很容易到达并通过扭转点。⑤在基层医院容易开展。基层医院收治的乙状结肠扭转患者,可以先行 X 线透视下肠梗阻导管置入,缓解症状,防止病情进展,为患者转院行乙状结肠切除一期吻合术赢得时间。

本组 21 例乙状结肠扭转患者 X 线透视下肠梗阻导管置入后,均接受了腹腔镜乙状结肠切除手术,术中见扭转的乙状结肠均已复位,肠壁血运正常,均无充血、水肿。术后 1 例患者出现吻合口感染,对症处理后痊愈,所有患者均未发生吻合口瘘,围手术期无死亡病例。因此,腹腔镜手术的并发症发生率和病死率低,说明肠梗阻导管置入后肠道恢复正常,有充分时间调理其伴有的高血压、糖尿病、电解质紊乱等基础疾病,提高了手术的安全性。

本研究的不足之处:为单中心回顾性研究,病例数较少;缺少不放置肠梗阻导管而直接外科手术的乙状结肠扭转患者作为对照组。

综上所述,X线透视下肠梗阻导管置入治疗乙状结肠扭转,疗效显著,并发症少,成功率高,介入操作简单,能够将乙状结肠扭转急诊手术转为择期腹腔镜乙状结肠切除手术,提高围手术期安全性,防止乙状结肠扭转复发。

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