

透明帽辅助内镜技术在十二指肠疾病诊疗中的应用

聂晓英, 蓝文通, 许开武, 曾 讯, 崔 毅
(中山大学附属第一医院内镜中心, 广东 广州 510080)

摘要:【目的】分析透明帽辅助内镜技术在十二指肠疾病诊疗中应用的优势。【方法】2014年9月至2015年12月将在我院内镜中心接受检查的62例次十二指肠可疑病变患者按就诊的时间顺序随机分为透明帽辅助组和常规检查组, 每组各31例次, 比较透明帽辅助组与常规检查组在视野清晰度、图像捕获成功率、总手术时间、活检或治疗时间的差别。【结果】使用透明帽辅助组31例病例中的30例视野清晰度被评定为“清晰”, 明显高于常规组31例中的9例(96.8% vs 29.0%, $P < 0.001$)。31例透明帽辅助组图像捕获成功23例, 31例常规组捕获成功8例, 差异有统计学意义(90.3% vs 25.8%, $P < 0.001$)。透明帽辅助组的操作时间(s)明显短于常规组(150 ± 58 vs 95 ± 36 , $P = 0.004$)。【结论】透明帽辅助内镜检查治疗十二指肠疾病视野更清晰, 图像捕获成功更高, 手术时间更短。

关键词: 内镜; 十二指肠疾病; 透明帽

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Application of Transparent Cap Assisted Endoscopic Technique in Diagnosis and Treatment of Duodenal Disease

NIE Xiao-Ying, LAN Wen-Tong, XU Kai-Wu, ZENG Xun, CUI Yi

(Endoscopy Center, The First Affiliated Hospital, Sun Yat-Sen University, Guangzhou 510080, China)

Corresponding to: Cui Yi; E-mail: gzcuiyi@163.com

Abstract: 【Objective】 To analyze the advantages of transparent cap assisted endoscopy in the diagnosis and treatment of duodenal diseases. 【Methods】 From September 2014 to December 2015, 62 cases with suspicious duodenal diseases in the endoscopy center of our hospital randomly divided into transparent cap group ($n = 31$) and routine group ($n = 31$) according to the time sequence. The visual field resolution, success rate of image capture and operating time were compared in 2 groups. 【Results】 Thirty cases in transparent cap group had clear visual field definition, which was obviously higher than 9 cases in conventional group (96.8% vs 29%, $P < 0.001$). Twenty-three cases in transparent cap group and 8 cases in routine group were successfully captured (90.3% vs 25.8%, $P < 0.001$). The average operating time of the transparent cap group was significantly shorter than that of the conventional group ($150+58$ vs $95+36$ seconds, $P = 0.004$). 【Conclusion】 Transparent cap endoscope examination is more effective in the treatment of duodenal diseases, and the image capture is higher and the operation time is shorter.

Key words: endoscopy; duodenum diseases; transparent cap

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胃肠镜检查对于消化道疾病诊疗具有重要作用。然而, 由于胃肠道解剖特点及蠕动, 胃肠镜检查有时缺乏满意的操作空间和视野, 难以在十二指肠的检查治疗中获得清晰的图像, 特别是在十二指肠及球降部交界处, 该处呈一固定锐角, 内镜进入转弯角度较大, 退镜时常很快滑脱入胃

窦, 致使球降交界处观察不清、难以捕捉清晰的图像, 最终导致球部病变诊断不清, 更勿谈内镜下治疗。透明帽是一种内径9 mm、外径11 mm的透明胶质, 安装在内镜前端似“帽”状的附件, 在内镜诊断和治疗中广泛应用。利用透明帽可更清晰暴露视野, 进行消化道黏膜肿物的切除(endoscopic

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作者简介: 聂晓英, 主管护理师, E-mail: nxy333@163.com; 崔毅, 通信作者, 硕士, 主任医师, 硕士生导师, E-mail: gzcuiyi@163.com

mucosal resection, EMR)^[1],可缩短手术时间,减轻患者的痛苦,减少并发症。我们设想,通过这一技术使十二指肠球降交界处角度变小,镜端不易掉出球降交界处,从而解决该处内镜下观察欠清晰及难以治疗的难题。本研究的目的是评估透明帽辅助十二指肠检查在十二指肠疾病诊疗中是否存在优势。

1 材料与方 法

1.1 研究对象

本研究于2014年9月至2015年12月在中山大学附属第一医院内镜中心进行,按病人就诊治疗的时间顺序共纳入62例十二指肠可疑病理改变患者,其中男24例,女7例,年龄13~92岁,平均年龄50.4岁。疾病诊断:十二指肠息肉13例,十二指肠溃疡和出血15例,十二指肠憩室2例,十二指肠脂肪瘤1例和十二指肠降部畸形1例。62例患者按病人就诊治疗的时间顺序分为透明帽辅助组与常规检查组,每组各31例。研究获得中山大学附属第一医院伦理委员会批准,所有患者签署了书面知情同意书。

1.2 方 法

1.2.1 内窥镜诊疗前准备 内窥镜检查治疗是侵入性操作,会给患者带来不适感,医护人员术前应细心、耐心向患者及家属解释操作过程中如何配合及注意事项。患者检查前一天晚上22:00时后禁食、禁水;长期服用高血压药的患者,于检查当天早上5:00~6:00时饮少量水服降压药。检查前5~10 min服用有消除胃内泡沫作用的达克罗宁胶浆局麻药(10 mL:0.1 g)1支,取下活动义齿,必要时给予静脉推注咪达唑仑行无痛内镜检查,缓解患者紧张情绪,减轻患者不适感。

1.2.2 两组内窥镜诊疗方法 透明帽辅助组在胃镜的前端安装并固定透明“帽”,常规检查组在胃镜的前端未安装透明“帽”。其他方法相同,将胃

镜入镜到十二指肠球部,通过胃镜注入空气使内窥镜视图可见性最大化,便于操控诊治疾病。诊治结束退出内窥镜之前,抽吸胃肠内空气以减轻术后的腹胀。

1.3 功效评估

记录手术开始到诊疗结束的操作时间,由操作医师评价视野的清晰度,并将其评定为“清楚”或“不清楚”两种情况。比较透明帽辅助组与常规检查组在视野清晰度、图像捕获、操作时间的差别。

1.4 统计学处理

采用SPSS17.0软件进行统计学分析。计数资料采用频数描述,各指标组间比较采用 χ^2 检验,以 $P < 0.05$ 为差异有统计学意义。

2 结 果

透明帽及透明帽辅助内镜检查效果如图1,可见,透明帽辅助内镜检查效果良好,视野清晰。透明帽辅助治疗组和常规治疗组图像捕获及治疗效果见图2,二者比较可见,透明帽辅助治疗组视野清晰度更胜一筹。

两组视野清晰度评判结果、图像捕获成功率、总手术时间比较见表1。可见,两组视野清晰度和图像捕获成功率、总手术时间比较,均 $P < 0.05$,差异具有统计学意义,透明帽辅助治疗组视野清晰度、图像捕获成功率明显优于常规治疗组图,总手术时间明显短于和常规治疗组。

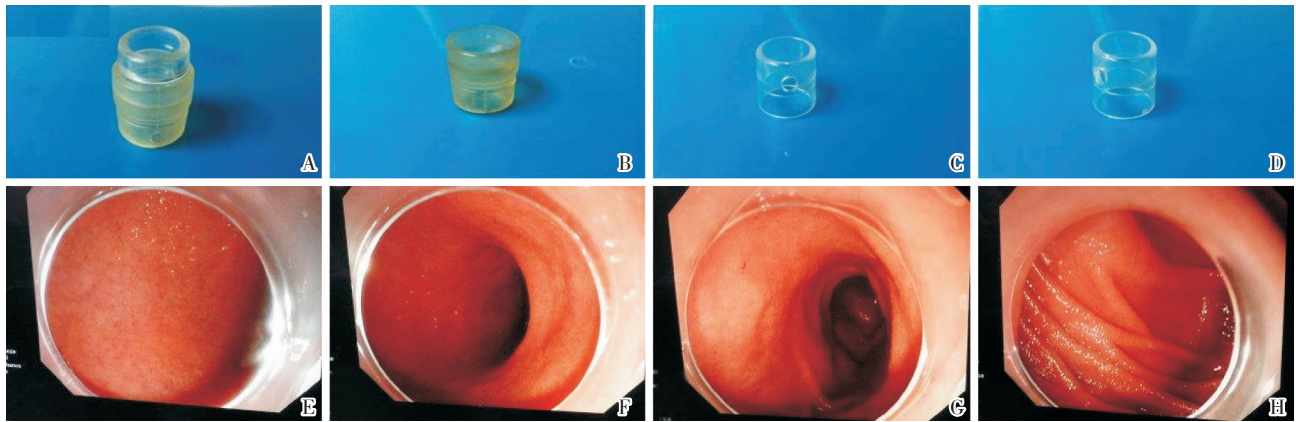
3 讨 论

由于视野不清,胃肠黏膜隆起性病变更切除术难以治疗大型扁平息肉^[2]。然而,在透明帽辅助下,内窥镜可治疗大型扁平息肉,免除患者需要外科手术切除的痛苦。一些研究人员已经评估了这种

表1 两组视野清晰度、图像捕获成功率、操作时间比较

Table 1 The visual field resolution, success rate of image capture, operating time in two groups

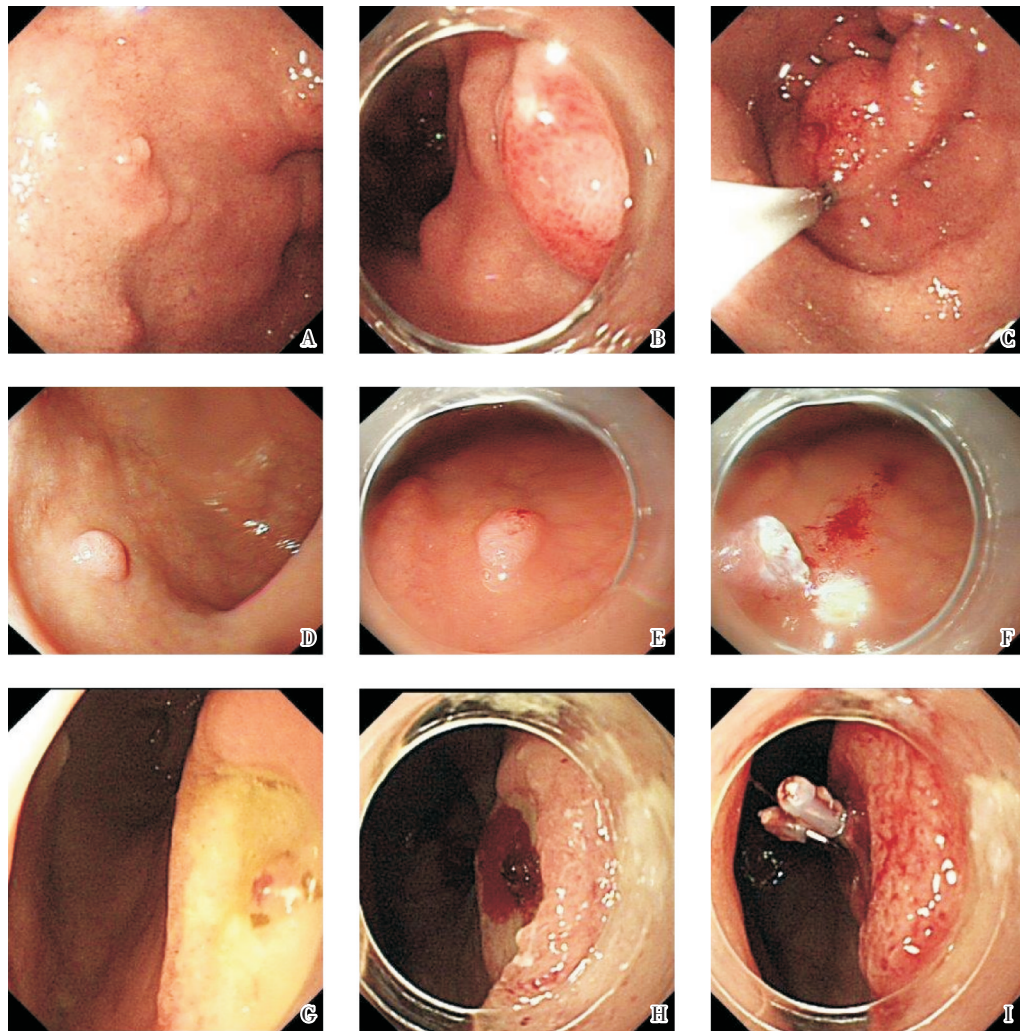
Group	<i>n</i>	Visual field resolution (Yes/No)	Success rate of image capture (Yes/No)	Operating time/s
Routine	31	9/22	8/23	150 ± 58
Cap auxiliary	31	30/1	28/3	95 ± 36
<i>P</i>		< 0.001	< 0.001	0.004



A, B, C, and D were transparent cap auxiliary accessories used in endoscopy. The following was a partial view of the cap assisted endoscopic examination in the duodenum (E and F), the descending part of the duodenal bulb (G) and the descending duodenum (H).

图1 透明帽及其辅助内镜检查图

Fig.1 Transparent cap and its auxiliary endoscopy



A, D, and G: capture images captured during routine endoscopic surgery; B, C, E, F, H, and I: capture images using transparent caps. A, B, and C were biopsy images, D, E, and F were the resected images; G, H, and I were hemostasis images.

图2 透明帽辅助治疗组和常规治疗组图像捕获及治疗图

Fig.2 Transparent cap auxiliary treatment group and routine treatment group image capture and treatment chart

方法切除胃肠息肉方法的安全性和有效性^[2-4]。除了切除息肉之外,透明帽辅助内镜技术已经被医生逐渐接受和应用于其他领域,如逆行胰胆管造影(ERCP)^[5-9]、胰腺假性囊肿^[10]、内痔疮^[11]、内镜下止血治疗术^[12]以及食管、胃肠道中清除异物术^[13-15]。但据我们所知,到目前为止透明帽在十二指肠内镜手术中的应用未见报道。

十二指肠的生理弯曲和频繁收缩,致管壁黏膜紧贴胃镜镜头,视野模糊,增加了病变观察及检查治疗难度。透明帽作为内镜诊疗中的附件,我院内镜中心不仅有常规的透明帽,还有改良的透明帽(①胃镜透明帽:食管静脉曲张套扎环的透明帽削磨,削去前端硬性部分2/3留下约2~3 mm的长度并磨光滑;②鼻胃镜透明帽:取呼吸道吸引管接头,削去磨平前后多余的部分,套紧镜身即可使用)。将“帽”安装在内镜前端后,内镜前端与消化道黏膜之间可以保持2~3 mm的距离,能够保证清晰的视野和足够的空间,同时给内镜一个支点,有利于内镜前端的固定,便于进行内镜下操作,如进镜贴近十二指肠球部加大充气量,旋转操作部,常规组利用内镜前端缘部位钩拉、展开皱襞;透明帽组利用内镜前端透明帽边缘部位钩拉、展开皱襞,内镜前端与消化道黏膜之间有2~3 mm之间的距离,能清晰观察到十二指肠内镜图像,获得清晰的胃肠视图,利于缩短手术治疗的时间。本研究中,透明帽辅助组具有比常规组更高的清晰视野率,手术时间也明显短于常规组。

总之,透明帽是一种新颖且简单安全的附件装置,可以安全地改善内镜操作空间、帮助缩短操作时间并提供清晰的视野,值得临床推广使用。

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