survival of the reserved hepatic tissue, especially in cirrhotic patients. Furthermore, it does not suppress backflow from the hepatic veins, which may lead to significant blood loss during transection. Other alternatives include the application of partial Pringle maneuver, hepatic vein exclusion, in situ cooling of the reserved hepatic tissue, and so forth [2].

A number of devices have been introduced in order to achieve a more accurate and bloodless transection of the hepatic parenchyma, ie, water jet knife, harmonic scalpel, or CUSA. However, even these instruments usually require the application of a complete or partial Pringle maneuver. We think that our method, as well as the method described by Chang et al [1] can facilitate a significant reduction of blood loss during hepatic resection without the need for Pringle maneuver or other vascular exclusion. In addition, it leads to significant reduction of the cost of the operation.

Our technique differs from that described by Chang in the following aspects: (1) In the technique described by Chang the thread is catched with a hook, which is situated near the top of the inner needle. We used instead a wire loop similar to one used for endoscopic polypectomy. We believe that this device is less traumatic compared with the hook. (2) In the technique described by Chang the needle has to penetrate twice the liver in order to make a knot. In our technique, two threads are pulled through the needle, so that the times of the needle penetrations required are reduced to the half. Furthermore, this maneuver allows the passage of two consecutive threads from the same canal, so that no liver tissue remains between the two consecutive sutures. Finally, there is no danger of cutting the previous suture when penetrating the liver for the next suture. (3) We apply Dacron patches, which are used as cushions allowing the application of increased tension during knotting of the threads without the danger of cutting through the liver surface.

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The Reply:

Simple is the best, especially using my needle for one of the most difficult gastrointestinal operations (ie, hepatic resection). It is my pleasure to learn about Dr. Lazardis' modification. Every modification will lead to an easier and simpler way to reach our goal. I have several comments after reading his article. First, the hook of my needle is hidden in the sheath when pulling out from the liver parenchyma to prevent the unnecessary injuries. Therefore, the criticism in the current discussion is a misunderstanding. Second, the current wire loop method pulls out two threads at the same time. If the needle penetrates into the vessels (especially the weak wall of the hepatic vein), the vessels will be widely torn, instead of ligated, when tying up the threads with each adjacent thread. Third, although Dacron patches are a good idea, they will make the procedure more complicated and may only minimally help. Even without Dacron patches, most major bleeding can be reduced to a more easily controlled level so that parenchyma transection can be safely performed. Bloodless hepatic resection is not my goal, but sometimes is a result. If there is a septic focus (eg, intrahepatic stone or liver abscess), Dacron patches will be a contraindication.

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Early postoperative enteral feeding increases anastomotic strength in a peritonitis model

To the Editor:

I read with great interest the study by Khalili et al [1] as published in *The American Journal of Surgery.* This paper looks at the beneficial effects of early postoperative enteral feeding on anastomotic healing. They hypothesized that early postoperative enteral feeding would change the cytokine response after surgery, mainly by decreasing TNF-α levels, which would increase the collagen synthesis and so anastomotic strength. They used cecal ligation and puncture model to produce acute peritonitis in rats, and then obtained chronic sepsis by treating acute phase surgically and with intravenous fluid resuscitation. They looked at the cytokine profile and anastomotic burst strength in postoperatively enteral fed group and compared it with the controls (no feeding). They found decreased TNF-α levels and increased anastomotic strength in early fed animals, and concluded that early postoperative enteral feeding decreased TNF-α levels, which resulted in increased collagen formation and better anastomotic healing.

In our study [2,3], we used a chronic septic rat fecal-agar pellet model to produce chronic intraabdominal sepsis by

implanting septic pellet and systemic inflammatory response syndrome (SIRS) by inoculating sterile pellet in the peritoneal cavities of rats. We found increased circulating levels of proinflammatory cytokines (TNF-α, IL-1β, and IL-6) in both septic and SIRS groups postoperatively, compared with the nonoperated control group. We looked at the collagen deposition in the intraabdominal abscess walls as well as the livers of the study groups by using Gomori's Trichrome stain for collagen, and found increased collagen deposition in the abscess walls and the livers of both sepsis and SIRS groups, compared with the control group, which was consistent with the high circulating cytokine levels, mainly TNF-α, IL-1β, and IL-6. We concluded that an inflammatory insult, regardless being septic or sterile, increases the circulating proinflammatory cytokine levels, which stimulates the collagen deposition in end organs, mainly in liver, and results in chronic fibrotic changes.

We disagree with their conclusion, that decreased TNF-α levels cause increased collagen deposition and anastomotic strength. The beneficial effects of early postoperative enteral feeding are well established, but as Dr. Khalili et al stated in their article, whether these beneficial effects are secondary to improved nutritional status or a change in cytokine response remains controversial. They did not look at the collagen deposition histologically in the anastomotic sites to conclude whether the decreased TNF-α levels were responsible for the increased collagen deposition and anastomotic strength or not. Postoperative early enteral feeding might have directly improved the anastomotic healing and have decreased the circulating proinflammatory cytokine levels by improving the inflammation and so morbidity, but it is hard to conclude that decreasing TNF-α levels is responsible for increased collagen synthesis without further histological studies.

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Novel applications of endo GIA linear staplers during pancreaticoduodenectomy and total pancreatectomy

To the Editor:

In the July 2001 issue of *The American Journal of Surgery,* Dr. Povoski [1] describes the use of the endo GIA linear stapler for dissection of the uncinate process and pancreatic head from the superior mesenteric-portal vein confluence and the right lateral border of the superior mesenteric artery (SMA). There are important technical and oncologic disadvantages to this form of dissection that should be considered as one evaluates the merits of this technique.

Separation of the specimen from the mesenteric vessels is the most important step in the performance of pancreaticoduodenectomy [2,3]. For most surgeons, this dissection should not be performed without clear visualization of the SMA. Doctor Povoski advocates simply palpating the SMA while stapling the pancreatic and mesenteric soft tissues lateral to the mesenteric vessels; he states that "great care is taken to palpate the superior mesenteric artery before and after closing the jaws of the stapler." Separation of the pancreas from the mesenteric vessels (Fig. 3 in his manuscript) without complete exposure of the SMA is an extremely dangerous maneuver, especially for those who do not perform this operation routinely. Failure to completely mobilize the superior mesenteric-portal vein confluence and directly identify the SMA may result in iatrogenic injury to the SMA.

When pancreaticoduodenectomy is performed for pancreatic adenocarcinoma, the retroperitoneal dissection along the SMA is oncologically critical. Failure to maximize the lateral surgical margin on the tumor (by dissection in the immediate periadventitial plane of the SMA) increases the risk for a micro- or macroscopically positive retroperitoneal margin (R1 or R2 resection). Incomplete resection results in a median survival of only 10 to 12 months—similar to the survival achieved with nonsurgical treatment [4]. The relationship between the technical aspects of the SMA dissection and the surgical margin status for pancreatic cancer is analogous to the relationship between total mesorectal excision with sharp pelvic dissection and the microscopic radial margin status in patients undergoing proctectomy for rectal cancer [5–7].

While the speed and apparent ease of the endo GIA stapling technique may seem advantageous, this form of nonanatomic retroperitoneal dissection may also increase the risk of SMA injury and incomplete tumor resection.

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