

Usefulness of flash-light transillumination button on videoendoscopy system for percutaneous endoscopic gastrostomy (PEG) tube insertion

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Letters to Editor

Since it was described in 1980, percutaneous endoscopic gastrostomy (PEG) has been a widely used method for insertion of a gastrostomy tube in patients who are unable to swallow or maintain adequate nutrition (1). PEG is a safe and easy method to improve nutritional status of patients with low mortality and complication rates (2,3).

A great deal of emphasis has been placed on the technique for selecting a safe site for PEG tube placement (4). Gastrocolic or gastrocolocutaneous fistula is one of the most worrying complications of PEG tube placement. Huang *et al.* have reported gastrocolic fistula with migration of feeding tube into transverse colon as a complication of percutaneous endoscopic gastrostomy (5). The transverse colon lies in front of the stomach and is displaced downward when the stomach is inflated. An under-inflated stomach may fail to displace the colon. If the transverse colon is present in front of the stomach, it will show as a dark band (6,7). Authors suggested transillumination of the abdominal wall as a means of ensuring that there was no organ interposed between the stomach and the abdominal wall at the site selected for puncture (4,7). During the procedure, the stomach is insufflated with air until fully distended. The light of the scope is directed anteriorly, and the abdominal wall is transilluminated. The absence of transillumination prior to gastric puncture has been accepted as an absolute contraindication for PEG tube placement (4,9).

But, it may not be possible to take a clear transillumination in some patients without any colonic interposition during PEG procedure. The absence of transillumination may indeed be related to excessive abdominal wall thickness or to the use of video endoscopes, which do not provide the same amount of light.

Horoldt *et al.* has therefore recommended ultrasound guidance during placement of a percutaneous endoscopic gastrostomy in patients with abdominal wall varices (8). This practice, although with no evidence based validation, is now used in some centers even in patients without suspected varices.

Stewart and Hagan described a new technique in which PEG is placed without transillumination. In this technique, a 10 ml syringe, partially filled with saline is

introduced through the pre-selected PEG site in to the gastric lumen. The barrel of the syringe is pulled back slightly, creating negative pressure, and the needle is slowly advanced in to the gastric lumen. If air is aspirated into the syringe before the needle appears in the gastric lumen, this will indicate the presence of a loop of bowel anterior to the stomach. In this situation another site should be chosen (10).

During the period of March 1999 - December 2004, placement of PEG tube was performed in our department in 105 patients consisting of 32 female and 73 male. We used both transillumination and safe tract technique during PEG tube placements. We observed a gastrocolocutaneous fistula in one patient. Although in 10 (9%) patients the abdominal wall was not transilluminated by normal transillumination technique, we obtained clear transillumination by using a new flash-light technique. In this technique, we used flash-light properties of video endoscopy system (Olympus CLV U-20). The stomach was insufflated with air, the light of the scope was directed anteriorly then the flash-light button was pushed and the abdominal wall was transilluminated easily. The flash-light produces bright white light and takes 9 seconds. This button can also be used for caecum transillumination during colonoscopy.

These flash-light properties may be a more useful method when conventional transillumination fails.

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