

They have now investigated whether this technique might be used to detect malignant IPMNs in 64 patients suspected of having these neoplasms.

No increase in glucose uptake was detected by  $^{18}\text{F}$ -FDG PET in 13 patients with a diagnosis of adenoma, or in 7 of 8 patients diagnosed as having borderline IPMN. A significant increase in glucose uptake was observed, however, in four of five patients with carcinoma *in situ* and in 20 of 21 patients with invasive cancers. Conventional imaging produced several false-positive results. Positive  $^{18}\text{F}$ -FDG PET results in 10 patients influenced the decision to operate. Of 33 patients with negative  $^{18}\text{F}$ -FDG PET results, 15 underwent limited resection and 18 patients avoided surgery, instead being monitored for future signs of malignancy.

The authors conclude that  $^{18}\text{F}$ -FDG PET can distinguish benign IPMNs from malignant IPMNs and is more useful than conventional imaging for aiding treatment decisions concerning elderly, asymptomatic patients.

**Original article** Sperti C *et al.* (2007) 18-Fluorodeoxyglucose positron emission tomography enhances computed tomography diagnosis of malignant intraductal papillary mucinous neoplasms of the pancreas. *Ann Surg* 246: 932–939

## Sleep deprivation increases perceived pain in patients with GERD

Approximately 47–57% of patients with GERD, compared with about 25% of the general population, report night-time awakening caused by heartburn episodes, resulting in sleep deprivation or fragmentation. Furthermore, studies of the relationship between sleep and pain tolerance have suggested that sleep deprivation can decrease pain thresholds. Schey and colleagues examined whether the sleep disturbances caused by GERD symptoms might, in turn, worsen the perceived pain experienced during acid reflux events.

This prospective, randomized, controlled crossover study included 10 patients with grade B–D erosive esophagitis and 10 healthy controls. Participants underwent two sleep schedules, separated by a 1-week washout period, in a randomly allocated order: adequate sleep ( $\geq 7$  hours' sleep for at least 3 consecutive days before evaluation) or sleep deprivation ( $\leq 3$  hours' sleep on the night before evaluation).

Actigraphy was used to verify compliance with the sleep schedules, and a modified acid perfusion test was used to evaluate the lag time to the onset of heartburn sensation, the sensory intensity of the event (scale 0–20), and the acid perfusion sensitivity score.

In the patients with GERD, sleep deprivation was associated with significantly decreased lag times to symptom report ( $P=0.02$ ) and significantly increased intensity scores ( $P=0.02$ ) and acid perfusion sensitivity scores ( $P=0.02$ ). Unexpectedly, none of the parameters differed significantly between adequate and deprived sleep schedules in the control group.

The authors conclude that sleep deprivation has hyperalgesic effects in patients who experience GERD symptoms, thus demonstrating the bidirectional relationship between GERD symptoms and disturbed sleep.

**Original article** Schey R *et al.* (2007) Sleep deprivation is hyperalgesic in patients with gastroesophageal reflux disease. *Gastroenterology* 133: 1787–1795

## Mouth-to-anus patency capsule for the diagnosis of small intestinal strictures

Video capsule endoscopy (VCE) is a noninvasive imaging technique for visualization of the small intestine. The presence of an undiagnosed intestinal stricture, however, poses the risk of capsule impaction, which requires surgical removal. Banerjee and colleagues tested the safety and efficacy of a painless, noninvasive and radiation-free patency capsule for diagnosing intestinal strictures.

The patency capsule (Given Imaging, Yoqnam, Israel) consists of a  $26 \times 11$  mm casing containing a radiofrequency identification (RFID) tag to allow tracking of the device through the gastrointestinal tract. The coating of the capsule is designed to disintegrate after 80–100 h; the RFID tag and casing fragments are then excreted in the stools, denoting the presence of a stricture. Intestinal patency is indicated by intact capsule excretion, and confirmed by VCE.

Twenty-six patients (tuberculosis [ $n=16$ ], Crohn's disease [ $n=8$ ], postoperative stricture [ $n=1$ ], malignant stricture [ $n=1$ ]) with a confirmed or suspected small intestinal stricture swallowed a patency capsule after an overnight fast. Eight patients excreted intact

capsules <72 h after ingestion; six of these patients agreed to VCE, which confirmed intestinal patency. Two capsules were excreted intact >100 h after ingestion. Fifteen patients excreted the RFID tag (mean 159.2 h after ingestion, range 90–240 h), and one tag was retrieved during surgery for malignant stricture. No notable complications or abdominal symptoms were reported.

The authors conclude that the patency capsule might be a useful diagnostic tool for the identification of intestinal strictures before VCE.

**Original article** Banerjee R *et al.* (2007) Safety and efficacy of the M2A patency capsule for diagnosis of critical intestinal patency: results of a prospective clinical trial. *J Gastroenterol Hepatol* 22: 2060–2063

### Good 5-year outcomes after argon plasma coagulation for Barrett's esophagus

Various ablative techniques, such as argon plasma coagulation (APC), have been shown to reduce the extent of Barrett's esophagus, a major risk factor for esophageal adenocarcinoma. Long-term outcomes and the effects of APC on esophageal cancer risk, however, have not been demonstrated. Bright and colleagues have reported the 5-year outcomes from a randomized trial of APC versus endoscopic surveillance in patients with Barrett's esophagus.

The study included patients with confirmed Barrett's esophagus who had previously undergone fundoplication for GERD. Patients were randomly allocated to undergo either annual endoscopic surveillance or APC ablation. Follow-up endoscopy was performed every 12 months, and only data from participants with 5 years' follow-up were included in the final analysis.

At the 5-year follow-up assessment, 14 of 20 patients in the APC group versus 5 of 20 patients in the surveillance group had  $\geq 95\%$  reduction in Barrett's esophagus surface area; complete microscopic regression of Barrett's esophagus was observed in 8 and 3 patients in the APC group and surveillance group, respectively. Two patients in the APC group developed esophageal strictures and two patients in the surveillance group developed high-grade esophageal dysplasia during follow-up.

The authors conclude that regression of Barrett's esophagus is more extensive in patients who undergo APC rather than a surveillance protocol. Although high-grade dysplasia was observed only in the surveillance group, studies of larger patient populations with longer than 5-year follow-up durations are required to evaluate the effect of ablative therapy on cancer risk.

**Original article** Bright T *et al.* (2007) Randomized trial of argon plasma coagulation versus endoscopic surveillance for Barrett esophagus after antireflux surgery: late results. *Ann Surg* 246: 1016–1020

### A new treatment approach for minimal histological residuals of gastric MALT lymphoma

*Helicobacter pylori* eradication is an effective treatment for stage I gastric MALT (mucosa-associated lymphoid tissue) lymphoma. Initial evidence suggests that patients with persistent minimal histological residual disease after successful *H. pylori* eradication have a favorable prognosis and might not require oncologic treatment, which is the usual course of action. Fischbach and colleagues, therefore, conducted a retrospective case series to report the outcome of a watch and wait strategy for such patients.

Patients ( $n = 108$ ; 62 male) with stage I gastric MALT lymphoma were recruited from a larger European study series. In these patients, *H. pylori* was successfully eradicated and minimal histological residual disease was confirmed by normalization of endoscopic findings and the histological detection of lymphoma infiltrates 12 months after *H. pylori* eradication. Further treatment was postponed, but patients received regular endoscopy and biopsy follow-up for a median 42.2 months (range 2–144 months).

Nearly all patients had a favorable outcome. Thirty-five patients (32%) entered into late (>12 months after *H. pylori* eradication) complete remission, whereas 67 (62%) had unchanged minimal histological residuals. Progressive disease only occurred in six patients, one of whom developed high-grade lymphoma.

The authors suggest that a watch and wait strategy is safe and valid for patients with minimal histological residuals of gastric MALT lymphoma after successful *H. pylori* eradication.