holic and had no medical illness in the past.

On examination, he had tachycardia with blood pressure of 90 mmHg systolic. His tongue was dry and upper half of abdomen was guarded. Abdominal tap was deferred till radiograph of the chest could be done. Hematological investigations revealed leukocytosis (13,900/cumm); he was HIV-negative. Radiograph of the chest showed free gas under the diaphragm. Ultrasonography revealed splenic abscess along with free fluid in the abdomen. Laparotomy revealed 2 liters of purulent collection mixed with streaks of blood. The splenic abscess had ruptured, with active bleeding from the cavity. The large and small bowel, stomach and duodenum were inspected for evidence of perforation but none could be found. In view of active bleeding, splenectomy was done and, after peritoneal lavage, the abdomen was closed with intraperitoneal drains. Pneumococcal vaccine was given postoperatively and the patient was started on antibiotics. He was discharged on the tenth postoperative day.

Culture of bacteriological swabs of the purulent fluid showed heavy growth of Escherichia coli sensitive to amikacin and ceftazidime. No other organisms, aerobic or anaerobic, were isolated. The patient is asymptomatic 2 months later.

Very few cases of rupture of splenic abscess with generalized peritonitis have been reported. Our patient presented with signs of generalized peritonitis with pneumoperitoneum due to rupture of splenic abscesses.

Pneumoperitoneum is diagnostic of intra-abdominal viscous perforation in a majority of cases. Thoracic causes such as ruptured emphysematous bleb, ventilatory support and positive end-expiratory pressure have been documented. Pneumatosi cistoides intestinatis has also been documented as a cause in which gases form in the submucosal and subserosal spaces. Endoscopic examination and unusual sexual acts have been reported as rare causes of pneumoperitoneum. Organisms such as clostridia, Streptococcus viridans, coagulase-negative Staphylococcus epidermidis and Aerobacter cloacae have been reported to cause peritonitis. Poilily reported two cases of spontaneous pneumoperitoneum associated with Escherichia coli infection; he attributed it to the ability of the organism to ferment carbohydrates with production of gas. Our patient also had Escherichia coli infection, leading to pneumoperitoneum after rupture of splenic abscess.

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Port-site infection with Mycobacterium chelonel following laparoscopic appendectomy

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We report a 14-year-old girl who developed port-site infection with Mycobacterium chelonel following laparoscopic appendectomy. She was treated with local exploration and excision of sinuses that developed at the site, followed by antibacterial agents for six months. She has had no recurrence of infection at two years. [Indian J Gastroenterol 2001; 20: 247-248]

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Mycobacterium chelonel, an atypical mycobacterium classified as a rapid-grower, is a ubiquitous organism widely distributed in the environment. Recent reports have highlighted its increasing role in surgical infections. We report a patient who developed port-site infection with M. chelonel following laparoscopic appendectomy.

A 14-year-old girl presenting with recurrent right iliac fossa pain underwent diagnostic laparoscopy and appendectomy. She had received perioperative prophylaxis with intravenous cefotaxime and metronidazole. The reusable metal instruments used for surgery were immersed in 2% glutaraldehyde for 30 minutes and rinsed with autoclaved water. Three parts (one 11 mm and two 5 mm) were utilized and the specimen was extracted via the 11-mm umbilical port without contamination of the wound. Histology of the appendix revealed chronic appendicitis.

A month later, she developed abscesses at the sites of the umbilical and suprapubic ports, which were drained under local anesthesia. Percutaneous failed to show any organisms. The abscesses recurred a month later and again at three months after surgery. Exploration of the wounds under general anesthesia revealed two sinus tracts, one running from the umbilicus towards the left iliac fossa and another passing from the suprapubic wound towards the right iliac fossa. Both were excised down to the rectus sheath through wide elliptical incisions. Histology showed granulomatous lesions (Fig) in the tracts and culture identified Mycobacterium chelonel as the causative organism.
The patient was started on clarithromycin, ciprofloxacin and amikacin, which were all continued for six months. Although the wounds healed satisfactorily by secondary intention, they left two unsightly scars. She remains well and without recurrence of infection two years later.

Surgical infections due to M. chelonae are known to manifest in four ways. The commonest is disseminated cutaneous disease presenting as multiple abscesses or erythematous subcutaneous nodules with draining sinuses. The second is localized disease manifesting as cellulitis, subcutaneous abscesses, or osteomyelitis and is usually induced by trauma, intramuscular injections or operations. The third is infection associated with central venous catheters or chronic peritoneal dialysis catheters. These often occur in immunocompromised patients. Finally, a recently recognized hazard is infection transmitted via endoscopes, e.g., bronchoscopes.

The optimal treatment of this infection involves exploration of the wound, and a wide debridement of infected skin and subcutaneous tissue down to and, if necessary, including the fascia without any attempt at primary closure. Primary or early grafting is thought to promote recurrent infection and is best avoided. M. chelonae is resistant to most standard anti-tubercular drugs. Antibacterial drugs like ciprofloxacin, doxycycline, clarithromycin, amikacin and tobramycin have good activity against the organism and a combination of two or more of these drugs should be initiated. Although there are no data on the optimum duration of therapy the antibodies are generally administered for at least three to six months.

In an outbreak of peritonitis involving chronic peritoneal dialysis machines disinfected with formaldehyde, M. chelonae has been shown to be resistant to this method of disinfection. Similarly, the organism was isolated from endoscope washer-disinfectors as well as from processed endoscopes, indicating that it may on rare occasions survive high-level chemical disinfection. In these instances, as well as in our patient, the water used for rinsing was considered to be the source of M. chelonae.

Autoclaving of instruments has not found favor with laparoscopic surgeons, possibly due to concerns regarding its deleterious effects on delicate laparoscopic instruments. Nevertheless, manufacturers of most instruments recommend the practice of autoclaving.

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