In some ways, the Ultra-Fit face mask may be a preferable alternative to the football helmet.

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Hepatic Bleeding and Hemorrhagic Shock Following Thrombolytic Therapy in Patients With Acute Myocardial Infarction

To the Editor:

Severe bleeding is the major adverse effect of thrombolytic therapy (TT), though the occurrence of hepatic hematoma (HH) and hemorrhagic shock as results of the aforementioned treatment is very unusual.1,2 Liver hemangioma and hepatic trauma are conditions that can facilitate this complication. To our knowledge, there is only one report (that of Fox et al3) of nontraumatic hepatic bleeding related to TT in a patient with acute myocardial infarction (AMI). We report here two patients with AMI who developed this complication following TT.

Case 1

A 71-year-old woman was admitted to the ICU with an inferior AMI. Her physical examination, and laboratory and coagulation studies were normal. The patient received aspirin, heparin, and rt-PA, 100 mg in 90 min. During the following 12 h, the patient had recurrent episodes of vomiting and abdominal distension, and her blood pressure and hematocrit level progressively dropped. A CT scan revealed a large subcapsular HH (Fig I) and hemoperitoneum. An angiographic study did not reveal any vascular malformation, and the hepatic artery was embolized. On the second day after admission, she showed clinical data that suggested intra-abdominal rebleeding. A laparotomy was performed and the hepatic artery was bound. The patient died of cardiogenic shock.

Case 2

A 57-year-old man was admitted with an anterior AMI. His physical examination, and laboratory and coagulation studies were normal. He was given anisoylated plasminogen streptokinase-activated complex (APSAC), 30 IU, and aspirin. Twenty-four hours later, the patient complained of abdominal pain and subsequently developed a hypovolemic shock. An abdominal ultrasound study showed the presence of free intra-abdominal liquid. A laparotomy disclosed a large HH and blood in the peritoneal cavity. Because of ineradicable hepatic bleeding, liver packing was performed. Hepatic angiography showed no evidence of hepatic hemangioma. The patient gradually improved and was discharged from the hospital.

In previous reports,4,5 liver hemangioma or hepatic trauma were reported as conditions that could have facilitated liver bleeding in patients with TT, but in the cases presented here, there were no liver malformations or hepatic traumas.

In summary, hepatic bleeding caused by TT in patients with AMI is very exceptional but should be investigated in patients with unexplained gastrointestinal symptoms or hypovolemic shock following thrombolysis.

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Cardiopulmonary Effects of Laparoscopic Surgery, Revisited

To the Editor:

In a well-written article, Sharma et al (September 1996)1 reviewed the cardiopulmonary effects of laparoscopy. However, there are two additional studies of respiratory mechanics of interest to your readers.

One study measured airway flow and airway and esophageal pressures of anesthetized/paralyzed, tracheally intubated patients during mechanical ventilation.2 Measurements were made in the

Figure 1. Abdominal CT scan revealing a large hepatic subcapsular hematoma.
appropriate supine positions for gastrointestinal laparoscopy, using 15° Trendelenburg and 10° reverse Trendelenburg positions at pneumoperitoneal pressures of 0, 15, and 25 mm Hg. From these measurements, discrete Fourier transformation was used to calculate lung and chest wall elastances and resistances. All measurements in the Trendelenburg position increased with 15 mm Hg pneumoperitoneum, and both lung and chest wall elastances increased further with pneumoperitoneum at 25 mm Hg (p<0.05). Although both lung and chest wall elastances and resistances increased in the reverse Trendelenburg position at 15 mm Hg pneumoperitoneal pressure, the increases in lung elastance and resistance were less compared to measurements in the Trendelenburg position (p<0.05). The increases in lung elastance and resistance at 15 mm Hg were positively correlated to body mass index or body weight; chest wall elastance and resistance increases were negatively correlated to the same factors (p<0.05). Intraoperatively, lung and chest wall mechanical impedances increase with increasing pneumoperitoneal pressures and are dependent on body configuration and position. These changes should be considered in patients with pulmonary disease or obesity because this increase in impedance may be critical.

To evaluate whether these large increases in lung and chest wall elastances and lung resistance were reversed or remained following release of pneumoperitoneum and completion of laparoscopy, another study\(^1\) compared respiratory mechanics immediately before the pneumoperitoneum and following deflation. Lung elastances and resistances after release of the pneumoperitoneum were not changed from baseline (p>0.05), although total respiratory elastance remained slightly increased compared with baseline (p<0.05). Thus, the reported compromise of respiratory function indicated by postoperative pulmonary function tests after laparoscopy does not appear to be due to changes in lung or chest wall passive mechanical properties. As more procedures are performed in patients with cardiopulmonary disease, the period of pneumoperitoneum with its concomitant respiratory mechanical changes will achieve greater importance.

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Antibiotics in Acute Bronchitis and Exacerbations of Chronic Bronchitis

What Is General Practitioners’ Habit?

To the Editor:

The annual charge for antibiotics represents one of the heaviest pharmaceutical expenses for the Italian National Health Service (NHS), and the increasing use of new-generation, high-cost antibiotics is worsening the situation. Upper respiratory tract infections represent a high percentage of all ambulatory patient encounters with primary care physicians, and their treatment is the leading indication for use of antimicrobial agents.\(^1\)

We examined the outpatient management of acute bronchitis (AB) in previously fit persons and acute exacerbations of chronic bronchitis (AECB) by general practitioners (GPs), in order to evaluate their customary criteria for the use of antibiotics in these diseases.

An anonymous questionnaire was mailed to all GPs of the health district of Ferrara. The questionnaire consisted of two parts, the first concerning AB and the second AECB. The appropriate definitions, taken from the current literature, were given in the questionnaire. Four questions concerning the use of antibiotics and the type of antibiotic selected were common to both AB and AECB; two questions were structured as multiple-choice questions (Fig 1). A fifth question concerned AECB only. A daily cost of L3,600 (Italian) (about $2.20 US) was fixed as a cutoff for distinguishing low-cost and high-cost antibiotics. The low-cost group included amoxicillin, bacampicillin, amoxicillin plus clavulanic acid, erythromycin, mycycycin, and co-trimoxazole.

One hundred eighteen of 184 GPs (64.1%), attending about 123,000 patients and observing about 8,200 cases of AB and 2,400 cases of AECB during the winter season, answered the questionnaire. As concerns AB, 20 physicians used antibiotics in all cases and 97 in selected cases, whereas one physician never used antibiotics. Penicillins and macrolides were considered first-choice antimicrobial agents by 80% of physicians. In 47.8% of cases, high-cost compounds were prescribed, and only 20 physicians (17%) indicated that low cost was among the factors influencing the choice of the drug.

As concerns AECB, 46.6% of the GPs prescribed antibiotics to all patients and 53.4% in selected cases. Quinolones and macrolides were the drugs most frequently used (59.3%), and high-cost antibiotics were used by a significantly higher percentage of physicians than in AB (72% vs 47.8%; p < 0.001). Only nine GPs considered price before choosing the type of antibiotic. These results suggest that GPs prescribe antibiotics most frequently as a first-line treatment for patients with both AB and AECB. The tendency of GPs to prescribe antibiotics too quickly in AB has been previously reported by other authors,\(^2\) although such a tendency is not in keeping with the current literature, which supports the use of antibiotic treatment for AB only in selected cases.\(^3\) Conversely, patients with AECB are reported to get a significant benefit from antibiotic therapy, and such a benefit is greater in selected groups of patients.\(^4,5\)

The overuse of antibiotics (in particular the high-cost agents) found in our survey is uselessy expensive and not justifiable from the clinical point of view. In our opinion, it is likely due to the imbalance between the propagandistic hammering of the pharmaceutical industry and the inertia silence of the public health authorities, who fail to plan educational programs in pharmacoeconomics for physicians working in NHS (Italy).

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