The liver span ranged from 3.5 cm to 7.3 cm in neonates, being larger in girls. It increased with age, reaching 8.4 cm to 12.5 cm in children 12 years of age; in this age group the liver was larger in boys.

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Free and total carnitine levels in patients with celiac disease

The article by Yuce and colleagues1 is an important contribution to the literature on carnitine metabolism in celiac patients. In this study mean serum free carnitine levels were significantly lower in patients with active celiac disease, none of whom had symptoms of carnitine deficiency, than among controls. Lerner and colleagues2 reported that serum total carnitine (but not free carnitine) was significantly decreased in a small group of patients with active celiac disease. In 2003 Roggero and colleagues3 presented an 18-month-old boy who was admitted to the hospital because of delay in motor skill development. The patient was diagnosed to have free and total carnitine deficiency due to celiac disease.

An assessment of carnitine status requires knowledge of its free and total levels.4 Activated carboxylic acids are reversibly transferred between coenzyme and carnitine (carnitine + acyl-CoA ↔ acylcarnitine + CoA).

Recently we measured serum free and total carnitine concentrations in 31 patients with celiac disease (ages 4-53 years) by use of enzymatic method and spectrophotometric detection. The study group consisted of 6 newly diagnosed symptomatic celiacs (ND), 15 patients without antidieminal antibodies (EMA) on strict gluten-free diet (GFD), and 10 EMA-positive patients who were non-compliant with gluten-free diet (GD). Free carnitine deficiency (N >30 μmol/L) was observed in 4/6 ND, 3/10 GD and 0/15 GFD. Total carnitine concentrations were below the normal (N>37 μmol/L) in 3/6 ND, 1/10 GD and 0/15 GFD. Mean levels of free carnitine and of total carnitine were higher in GFD (44.6 [6.0] μmol/L; 54.2 [8.1] μmol/L) in comparison to GD (33.4 [8.6] μmol/L; 45.6 [9.7] μmol/L) and to ND (24.7 [8.9] μmol/L; 34.7 [9.3] μmol/L, p<0.05). In one GD woman with muscle weakness and low free and total carnitine concentrations, supplementation with this compound improved muscle tone.

We agree with Yuce and colleagues1 that the need for supplementation of carnitine in patients with celiac disease needs further investigation, and we recommend assessment of not only free carnitine but also of total carnitine in patients with gluten-sensitive enteropathy.

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References

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'Do-nothing' alternative and cost-minimization evaluations

Aggarwal and Ghoshal1 in their editorial have raised an interesting point about cost-minimization evaluations. They argue that cost is minimized by 'doing nothing'. This argument is flawed and needs to be corrected.

Cost-minimization evaluations involve comparing costs of alternative interventions whose benefits are identical.2 We compare the costs of a branded drug and its generic equivalent if both are equally efficacious. Costs cannot be compared if the benefits are unequal.

If ‘doing nothing’ as an alternative is as effective as universal immunization with hepatitis B (i.e., the vaccine is no better than placebo), then certainly ‘do nothing’ is to be preferred as the cost-minimization strategy of choice. If the vaccine prevents even one case of hepatitis B, then it cannot be compared to ‘do nothing’ for cost-minimizing evaluation.

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Reply from the authors

We thank Dr Agarwal for his interest in our paper. We agree with him that cost-minimization evaluation for comparison of two competing approaches is appropriate only when these offer equal benefits. Our editorial wished
Acute appendicitis in left scrotum

We read the article by Sharma et al.[] about the occurrence of acute appendicular perforation in a right inguinal hernial sac. This entity has been described earlier in children. In fact, the first recorded appendectomy in 1736 was performed by Claudius Amyand, surgeon to King George II, on an 11-year-old who had a perforated appendix within an inguinal hernia.[] The term Amyand’s hernia has been used variously to refer to occurrence of an inflamed appendix within an inguinal hernia,[] a perforated appendix within an inguinal hernia,[] or a non-inflamed appendix within an irreducible inguinal hernia.

A 35-year-old man presented with left inguinoscrotal swelling since two months, and acute pain in the left scrotum associated with vomiting since one day. Clinical examination revealed tachycardia with tender left inguinoscrotal swelling. A clinical diagnosis of strangulated inguinal hernia was made. Operative findings included inflamed appendix with inflammatory fluid in the left hernial sac. The terminal ileum and cecum were minimally congested. Appendectomy was done with exploration of the small bowel, which was normal. Modified Bassini’s herniotomy was done. Postoperative recovery was uneventful. Barium study after six weeks ruled out situs inversus.

The incidence of appendicitis within an incarcerated hernia is 0.13%.[] A majority of these are in children and in right-sided inguinal hernia. Appendix in left inguinal hernia, and its presentation in adults, is rare. Presence of cecum and appendix in the left inguinal hernia is seen in situs inversus, intestinal malrotation or mobile cecum.

At surgery, if the peritoneal cavity is unoinfected it must be protected from contamination. Introducing a foreign material into a contaminated field has its dangers. It has been recommended that repair be done without using a synthetic mesh.[]

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Gastric ulcer detected incidentally by renal scintigraphy

Technetium-99m labeled RBCs and diethylene-triamine penta acetic acid (DTPA) human serum albumin (HAS-D) are widely used in radionuclide gastrointestinal bleeding studies.[] We report a patient in whom gastric bleeding was suspected on the basis of incidental findings on renal scintigraphy with Te-99m DTPA.

A 68-year-old man was hospitalized with acute-onset chest pain and was diagnosed to have aortic dissection. Stool testing revealed occult blood. Investigations: hemoglobin 9.3 g/dl, white blood cell count 11,800/mm³, serum creatinine 1.12 mg/dl, blood urea nitrogen 25 mg/dL. Contrast-enhanced CT scan revealed aortic dissection extending from the descending aorta to the right iliac artery, and dysfunction of the left kidney. Renal scintigraphy with Te-99m DTPA revealed left renal dysfunction and an unexpected area of tracer accumulation in the left upper abdomen, suggesting a possibility of gastric bleeding (Fig). Gastroscopy confirmed the presence of a bleeding gastric ulcer. He was treated with H2-receptor blockers.

Te-99m labeled RBCs and Te-99m HAS-D are blood pool agents, and persist in the circulation for a long time, resulting in high background activity, which tends to mask the site of bleeding, sometimes with failure to

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Fig: Renal scintigraphy with Te-99m DTPA showing left renal dysfunction and tracer accumulation in left upper abdominal region, suggesting gastric bleeding