

researchers to find ways of protecting the bile ducts during RFA.

Cooling the bile ducts with a refrigerated 5% glucose isotonic solution has been shown, in a pig model, to prevent the development of histologic and radiologic bile-duct lesions after RFA, even when the electrode is placed (under ultrasound guidance) in direct contact with a bile duct. The authors used an RFA protocol suitable for ablating a 3 cm tumor in humans. Glucose was preferred to sodium-chloride-containing solutions, because the latter might increase the electrical conductivity of hepatic tissue. The total volume of necrotic tissue was evaluated after 1 week and after 3 weeks; volumes were similar for both cooled and non-cooled RFA. The authors did not, however, evaluate the viability of incompletely necrotic tissues immediately adjacent to cooled hepatic ducts.

The optimum bile-duct cooling temperature—one that could prevent the development of biliary lesions while assuring destruction of adjacent tumor tissue and thus minimizing the tumor recurrence rate—remains to be determined.

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Original article Marchal F *et al.* (2006) Prevention of biliary lesions that may occur during radiofrequency ablation of the liver: study on the pig. *Ann Surg* 243: 82–88

New rotavirus vaccines are safe and effective

Results of two multinational, randomized, double-blind, placebo-controlled trials that together enrolled 131,263 children have confirmed the safety and efficacy of two new oral rotavirus vaccines.

RotaTeq[®] (Merck) is a human–bovine reassortant vaccine against G1, G2, G3, G4 and P[8] serotypes of human rotavirus. Crucially, the results of this 4-year study, which enrolled 68,038 infants aged 6–12 weeks, mainly from industrialized countries, showed no evidence of an increased risk of intussusception among vaccinated children, compared with those given placebo (links with this rare, but severe, complication necessitated withdrawal of a previous rotavirus vaccine). The vaccine was highly effective at preventing severe rotavirus gastroenteritis and provided substantial protection against rotavirus gastroenteritis of any severity, resulting in a marked reduction

in associated hospitalizations and use of health-care resources.

Similar safety and efficacy results were shown for Rotarix[®] (GlaxoSmithKline), an attenuated vaccine specific for G1P[8] human rotavirus. This study enrolled 63,225 infants aged 6–13 weeks, mainly from Latin American countries, in which serotype G1P[8] predominates. Importantly, the authors found that Rotarix[®] could cross-protect against other rotavirus serotypes, albeit with reduced efficacy. Overall, rotavirus-associated hospitalizations were reduced by 42% in the Rotarix[®] study and by 63% in the RotaTeq[®] study. Questions remain as to whether these vaccines are equally safe in older children, but their potential is huge: worldwide, rotavirus infection kills ~500,000 children annually (mostly in developing countries) and accounts for a third of hospitalizations for diarrhea.

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Original articles Vesikari T *et al.* (2006) Safety and efficacy of a pentavalent human–bovine (WC3) reassortant rotavirus vaccine. *N Engl J Med* 354: 23–33

Ruiz-Palacios GM *et al.* Safety and efficacy of an attenuated vaccine against severe rotavirus gastroenteritis. *N Engl J Med* 354: 11–22

Consumption of carbonated soft drinks does not increase esophageal cancer risk

Consumption of carbonated soft drinks has increased dramatically over the past few decades, in parallel with the steeply rising incidence of esophageal adenocarcinoma. This observation, along with the high acidity of such drinks and their positive association with night-time gastroesophageal reflux symptoms, has led to the suggestion that consuming carbonated soft drinks might be a risk factor for esophageal adenocarcinoma.

Mayne and colleagues directly evaluated this association in a case–control, multicenter study that compared 687 control individuals with case patients selected from a large US cancer study. Case patients were allocated to one of four groups according to their diagnosis—esophageal adenocarcinoma ($n=282$), gastric cardia adenocarcinoma ($n=255$), esophageal squamous cell carcinoma ($n=206$), and non-cardia gastric adenocarcinoma ($n=352$). All participants provided details of their frequency of intake of diet and non-diet carbonated soft