

Antioxidant action of apple polyphenols

Apples are a rich source of antioxidant polyphenols, accounting for nearly ¼ of our daily polyphenol intake. These are particularly important in the stomach, where there is a substantial production of reactive oxygen species (ROS), thought to be important in gastric carcinogenesis. Epidemiological evidence indicates that diets high in dietary antioxidants from fruit and vegetables are protective against gastric cancer. The study by Graziani *et al* attempts to explore the biochemical basis of this effect. Apple polyphenol extracts (APE) were shown to inhibit cell damage induced by xanthine oxidase's action on xanthine. This effect was caused by the chlorogenic acid and catechin components, which were shown to enter the cells and to increase intracellular antioxidant activity. APE was also shown both in vitro and in vivo to protect gastric mucosa from injury by indomethacin, which acts in part via generating ROS. Because these effects were observed in rats using a dose equivalent to eating two apples a day, this study gives new meaning to the old saying "an apple a day keeps the doctor away".

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Lack of impact of immunosuppressant therapy on the need for intestinal resection in Crohn's disease

Gastroenterologists are increasingly resorting to the use of immunosuppressants for the treatment of Crohn's disease to prevent the need for surgery, so the report by Cosnes *et al* makes disappointing reading. The authors looked at the probability of requiring surgery over a 5 year period in five consecutive cohorts of Crohn's disease patients seen from 1978 to 2002. Surprisingly, in spite of a very substantial increase in the use of immunosuppressants, reaching 56% within 5 years of initial diagnosis in the last cohort, there was no evidence of a reduced probability of requiring surgery, which

remained about one in five. Most patients were operated on early in the course of the disease or within 3 months of receiving immunosuppressants, before these drugs would be expected to have much effect. The authors suggest that only if immunosuppressants are used earlier in the course of the disease are they likely to reduce the need for surgical intervention.

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Why do colorectal cancer patients do better in the US than Europe?

Previous studies have shown that survival rates for colorectal cancer are better in the US than Europe. However, because survival is strongly dependent on stage at diagnosis it is not clear whether the better survival is due to earlier diagnosis or superior treatment. The study by Ciccolallo *et al* used several large cancer registries to calculate the relative excess risk (RER) of death in Europe compared with the US. Crude RER was highly variable within Europe, ranging from 1.5 to 2.2. However, when adjusted for stage at presentation some European centres had figures as good as, or better than, the USA, while others still had RER ranging from 1.3 to 1.6, suggesting inferior treatment. The implication is that screening programmes yielding earlier diagnosis are likely to improve survival in many European centres. It also indicates that in some centres there will also need to be improvements in surgical practice if we are to get the full benefit of such programmes.

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Increased incidence of carbonic anhydrase IV antibodies in autoimmune pancreatitis.

As advances in understanding define the multiple aetiologies of chronic pancreatitis the entity of autoimmune pancreatitis (AIP) has been increasingly recognised. The association with Sjogren's syndrome, primary biliary cirrhosis, and sclerosing cholangitis suggests it may be an autoimmune disease directed against a target antigen common to salivary glands, pancreas, and liver. Early work showed antibodies to carbonic anhydrase (CA) I and II, but this antigen is found in all tissues and does not explain the localisation of damage to the pancreas. The current study by Hishimori *et al* shows that the key antigen may be CA IV, found in pancreatic ductal cells as well as biliary, renal, and intestinal epithelia. Using a truncated and, hence, soluble CA IV antigen allowed the authors to perform an ELISA assay which showed 40% of cases with definite AIP and 40% of those with Sjogren's had antibodies to CA IV but no controls. Antibodies were found in just 13% and 7% of cases with alcoholic pancreatitis and pancreatic cancer, respectively. The location of CA IV might well explain the associated inflammation in salivary, biliary, and intestinal epithelia.

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How much liver needs to remain for adequate post-resection liver function?

Increasing technical advances in liver surgery are allowing successful resection of larger primary and secondary liver neoplasms resulting in increasing postoperative problems with liver dysfunction and infection. It is important, therefore, to be able to predict preoperatively whether postoperative liver function will be adequate to avoid severe morbidity and mortality following any proposed resection. The paper by Schindl *et al* obtained preoperative CT images to assess the planned residual liver volume (RLV) and showed that if this was <27% the incidence of severe postoperative hepatic dysfunction was >90% falling to only 13% when the RLV was >27%. A small RLV and prolonged operating time were the only two prognostic variables which predicted the development of postoperative infection. None of these patients was cirrhotic so further work needs to be done to define a critical RLV in this group for whom surgery is even more hazardous; however, these figures will be of great value when weighing the risks and likely benefits of hepatic resection.

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