Adiponectin gene polymorphisms influence colorectal cancer risk

Low serum adiponectin levels have previously been linked with increased risk of colorectal cancer. Genetic linkage studies conducted in the US have now uncovered an association between an adiponectin gene polymorphism and colorectal cancer risk.

Kaklamani *et al.* recruited 441 patients with colorectal cancer and 658 healthy controls, who were genotyped for haplotype-tagging single nucleotide polymorphisms (SNPs) in the adiponectin (*ADIPOQ*) and adiponectin receptor 1 (*ADIPOR1*) genes; five SNPs were investigated in each gene. All participants were Ashkenazi Jewish residents of New York. Three SNPs in *ADIPOQ* (rs266729, rs822395 and rs822396) and one in *ADIPOR1* (rs1342387) were associated with altered colorectal cancer risk. A second study was conducted in Chicago to validate these findings; participants were 199 colorectal patients with cancer (81.4% white) and 199 controls matched for age, ethnicity and sex. The second study confirmed only the association between the *ADIPOQ* rs266729 SNP and cancer risk; individuals with GG or CG genotypes had a reduced risk of colorectal cancer compared with those who had the CG genotype.

Combined analysis of both studies including adjustments for age, ethnicity and sex produced an odds ratio of 0.73 for colorectal cancer in participants with GG or CG variants of rs266729. No significant associations were found between the other studied SNPs and cancer risk, although one association between rs822395 and reduced cancer risk was of borderline statistical significance. The other SNPs identified in the first study might only influence colorectal cancer risk in Ashkenazi Jewish individuals.

Original article Kaklamani VG *et al.* (2008) Variants of the adiponectin (ADIPOQ) and adiponectin receptor 1 (ADIPOR1) genes and colorectal cancer risk. *JAMA* **300:** 1523–1531

Treatment of HBV infection reduces the risk of hepatocellular carcinoma

Chronic HBV infection increases the risk of hepatocellular carcinoma (HCC) by 200-fold. A recent meta-analysis by Sung *et al.* has shown that treatment of chronic HBV infection with interferon or oral antiviral therapy significantly reduces the risk of HCC developing.

Five computerized databases and lists of abstracts presented at major international conferences were searched to identify studies that reported the incidence of HCC in patients with chronic HBV infection who received interferon therapy, pegylated interferon therapy, nucleotide or nucleoside analogs, or no HBV therapy. Of the 1,136 studies identified, 12 that examined the effects of interferon therapy and 5 that studied lamivudine antiviral monotherapy (1 of which also assessed adefovir in patients with lamivudine resistance) were included in the final analysis.

The incidence of HCC was significantly lower in patients who received interferon therapy or antiviral agents than in those who did not receive either treatment (interferon therapy: relative risk [RR] 0.66; antiviral therapy: RR 0.22). The reduced risk of HCC associated with interferon therapy was most pronounced in patients who also had early cirrhosis (RR 0.53), whereas the beneficial effect of antiviral therapy was most profound in individuals who tested positive for HBV e antigen (RR 0.21).

The authors suggest that the protective effects of interferon and antiviral therapy against HCC in patients with chronic HBV infection occur because these agents at least partially resolve liver fibrosis.

Original article Sung JJ *et al.* (2008) Meta-analysis: treatment of hepatitis B infection reduces risk of hepatocellular carcinoma. *Aliment Pharmacol Ther* **28:** 1067–1077

Increased immune reactivity is associated with complications in children with Crohn's disease

Adult patients with Crohn's disease (CD) who show immune reactivity to microbial antigens are prone to developing CD complications. Dubinsky *et al.* evaluated a large, prospectively recruited pediatric cohort to establish whether this pattern is also seen in children with CD.

Blood samples were taken from 796 children with CD (mean age at diagnosis 12 years) and expression of antibodies to three types of microbial antigens were measured. During the 32-month follow-up period, a total of 236 (30.3%) patients developed at least one disease complication and 140 (18%) underwent