

will indeed be a useful treatment for chronic liver failure.

Original article Li N *et al.* (2008) Recombinant human growth hormone increases albumin and prolongs survival in patients with chronic liver failure: a pilot open, randomized, and controlled clinical trial. *Dig Liver Dis* 40: 554–559

Probiotic yogurt can reverse MHE in patients with nonalcoholic cirrhosis

Minimal hepatic encephalopathy (MHE) affects 60–80% of patients with cirrhosis and is associated with poor quality of life, decreased work performance and impaired driving skills. Lactulose has been advocated as the first-line therapy for MHE, but long-term adherence is limited because of adverse gastrointestinal effects. Alternative, long-term therapies are, therefore, needed. Bajaj and colleagues investigated the use of probiotic yogurt for the treatment of MHE in patients with non-alcoholic cirrhosis. Yogurt was chosen because it is a palatable food item that is widely available and does not require prescription, all of which favor long-term adherence.

This unblinded, prospective study included 25 patients who were randomly allocated (2:1) to 12 oz of probiotic yogurt daily (17 patients) or no treatment (8 patients) for 60 days. Complete reversal of MHE was achieved in only those patients who consumed yoghurt (71%, $P=0.003$). Furthermore, only patients who consumed yoghurt significantly improved their psychometric test results, and only patients in the no treatment arm (25%) developed overt hepatic encephalopathy. No adverse events occurred. Adherence to yogurt was high (90%) and all patients in the yoghurt group who completed the study indicated that they would be happy to consume the yogurt for a further 6 months. Quality of life, liver disease scores and inflammatory markers were similar between groups and did not change significantly during the trial.

Bajaj and colleagues suggest that probiotic yogurt might represent a safe, effective, long-term therapy for MHE; however, the authors recognize the need for further studies with larger sample sizes and longer follow-up. In addition, a trial comparing lactulose with probiotic yogurt therapy is warranted.

Original article Bajaj JS *et al.* (2008) Probiotic yogurt for the treatment of minimal hepatic encephalopathy. *Am J Gastroenterol* 103: 1707–1715

Greater risk of gallbladder disease in postmenopausal women using oral vs transdermal HRT

An increased risk of gallbladder disease has previously been shown in postmenopausal women using hormone replacement therapy (HRT). A new study investigating the relationship between method of HRT administration and gallbladder disease risk has now reported an increased risk in postmenopausal women using oral HRT compared with transdermal HRT.

The prospective, cohort study involved 1,001,391 postmenopausal women. Participants were categorized according to HRT use and method of HRT administration at recruitment. During follow-up, 19,889 women had a first hospital admission for gallbladder disease, and 86% of these patients underwent cholecystectomy. Consistent with previous studies, HRT users had an increased risk of gallbladder disease compared with those who had never used HRT. Among past users, risk of gallbladder disease declined with increasing time since last use; however, the risk remained significantly greater than in nonusers, even 10 years after stopping HRT.

Interestingly, the risk of gallbladder disease was found to differ depending on the method of HRT administration; oral therapy conferred a substantially greater risk of gallbladder disease than transdermal therapy. Results were similar for risk of cholecystectomy. Standardized hospital admission rates over 5 years for a cholecystectomy were 1.1% in never users, 1.3% in users of transdermal HRT and 2.0% in users of oral HRT.

The authors speculate that transdermal HRT administration could result in lower bile concentrations of estrogen metabolites, potentially explaining the lower risk of gallbladder disease found in transdermal HRT users compared with oral HRT users. These findings should be taken into consideration when prescribing HRT to postmenopausal women.

Original article Liu B *et al.* (2008) Gallbladder disease and use of transdermal versus oral hormone replacement therapy in postmenopausal women: prospective cohort study. *BMJ* 337: a386

Transcutaneous vaccine delivery shows continued promise for travelers' diarrhea

The use of a skin patch developed to deliver a vaccine containing enterotoxigenic *Escherichia coli*