Primary biliary cirrhosis and primary sclerosing cholangitis are of infectious origin!

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Primary biliary cirrhosis and primary sclerosing cholangitis are of infectious origin!

EDITOR,—Haydon and Neuberger (Gut 2000;47:586–8) elegantly summarised the possibility that specific bacterial and viral pathogens may trigger early bile duct damage in the pathogenesis of primary biliary cirrhosis (PBC). It was concluded that a chronic infection, probably of viral origin, was driving an immune response with antimitochondrial and other autoantibodies enhancing the tissue damage later in stages of PBC. Besides detection of antibodies specific for mycobacterial antigens, such as the 55 kDa and 65–75 kDa antigens of M gordoniae, in PBC the authors emphasised, based on studies by Mason and colleagues1 and others, that immune responses detected by immunoblotting to retroviral proteins with homology to HIV p24 and other retroviral antigens, such as HLA, are common in PBC, in primary sclerosing cholangitis (PSC), and in Sjögren’s disease.

Recent studies propose a possible role for Helicobacter pylori in Sjögren’s disease.2 Contradictory data have appeared more recently based on a possible high relevance of anti-Helicobacter antibodies in saliva and sera of these patients.3 Most recently, Fox et al found that patients with chronic cholangitis in Chile were commonly infected by bile tolerant Helicobacter species, previously only detected in chronic liver disease in mice and other rodents, such as H hepaticus and H bilis.4 Nilsen et al first reported on bile and liver samples positive for Helicobacter DNA by polymerase chain reaction (PCR) in nearly half of 24 patients with PBC and PSC, and later immunoblot analyses of patients with these and other chronic liver diseases.5 Conflicting negative PCR results on bile were reported by Tanaka and colleagues6 while studies in Taiwan and Korea regularly seem to detect Helicobacter in human bile in chronic cholestatic bile tract diseases.7 Recently, Bulaj et al reported on a strong correlation between bile duct malignancies and the presence of H pylori DNA in bile.8 Since bile acids, intestinal acids, and highly charged mucin components are strong inhibitors of the PCR reaction, all of these studies have to be interpreted with caution until methods to safely remove or neutralise the effect of these inhibitors in bile, bile tract, and liver biopsies have been developed. We recently reported that PCR analyses of formalin fixed, paraffin embedded liver, pancreas, and bile tree samples may be a safe way to produce reproducible PCR analyses of Helicobacter and other potential bacterial invaders of the human bile tract.9 Interestingly, preliminary findings in our study on experimentally infected laboratory animals with various Helicobacter strains suggest that these may be translocated from the stomach and the intestine to the liver, and we speculate that this may involve uptake and intracellular survival in macrophages and other professional phagocytes activated in the stomach during most Helicobacter infections (T Wadström et al, unpublished observations). The pathogenesis may then be similar to infection of the bile tree they will not respond to antibiotic therapy for Helicobacter and other pathogens when these patients develop clinical disease. However, development of sensitive immunodiagnostic tests may serve as a screening tool and permit early diagnosis of Helicobacter associated bile tree and liver diseases in human patients as well as in laboratory animals.

We would certainly like to add PBC and PSC to the list of infectious diseases,10 and it seems likely that in a certain proportion of patients, H pylori and other Helicobacter species may play a role in the pathogenesis.

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Measurement of tumour necrosis factor α

EDITOR,—In their paper (Gut 2000;47:281–7), von Baehr et al suggest that the high sensitivity Quantikine ELISA for tumour necrosis factor α (TNF-α) is capable of

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differentiating between trimeric (bioactive) TNF-α and proteolytic split products of TNF-α. Both forms are thought to be measured by the Medgenix assay. They go on to propose that this allows a measure of recently released bioactive TNF-α as opposed to an estimate of release over past hours. The authors do not include any data to substantiate such a claim.

Following discussion with R&D systems, I can confirm that they do not claim that their high sensitivity kit measures only trimeric (bioactive) TNF-α and that there are no data comparing this kit with a bioassay as they measure different things, namely immunoactivity-(mass) versus bioactivity. The apparent twofold greater level of TNF-α activity (mass) versus bioactivity. The apparent calibration differences using the Medgenix kit may simply reflect a measure of TNF-α found using the Medgenix kit may simply reflect a calibration difference between the two kits.

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Reply

EDITOR,—Several years ago we compared different tumour necrosis factor (TNF) assays. We observed a strong correlation between the assay and the R&D assay (r=0.88) whereas the correlation was poor (<0.3) between both assays and the Medgenix ELISA. Moreover, the kinetic studies after in vitro lipopolysaccharide stimulation showed that bioactive TNF is produced for a few hours only whereas the Medgenix TNF assay (in contrast with the R&D assay) detects TNF even 24 hours after stimulation (fig 4 in Asadullah and colleagues). In addition, monoclonal antibodies recognising and neutralising TNF interact with the R&D assay but not with the Medgenix assay. Hence the differences between the assays are not simply due to differences in calibration. If sera that contained TNF immunoactivity were fractionated into fractions less than or greater than 40 kDa (the trimers have about 51 kDa) it was observed that the Medgenix but not the R&D assay recognised low molecular weight as well high molecular weight fractions (unpublished data). In summary, there is strong evidence that the Medgenix assay recognises a strongly reactive TNF split product in addition to the bioactive TNF trimmer but the R&D assay does not.

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Chromosome 3p and inflammatory bowel disease

EDITOR,—We were particularly interested to read the paper of Hampe et al (Gut 2001;48:191–7) which provides some supportive evidence for the presence of a gene involved in susceptibility to inflammatory bowel disease on chromosome 3p. As Hampe et al describe, this region of interest was initially identified in a study of 186 affected sibling pairs, all resident in and indigenous to the UK. Since that initial observation, subsequent genome wide scans in European and North American populations have produced inconsistent data for the chromosome 3p region. There are a number of possible explanations for the inconsistent data, all well summarised by Hampe et al. We suggest that the issue of heterogeneity between populations may be pertinent to the study of the chromosome 3 locus. We noted with interest that the dataset of 353 sibling pairs studied by Hampe et al includes a high proportion (48%) of UK sibling pairs, together with sibling pairs from Germany (46%) and the Netherlands (6%). In view of the fact that there appears to be heterogeneity between the Danish/German and the British populations in Europe concerning the chromosome 16 and 12 loci,1 we would be particularly interested to know whether the data implicating chromosome 3p in Hampe’s study are in fact stronger in the subset of families from the UK than those from Germany and the Netherlands. It would be of benefit in future studies to ascertain whether the chromosome 3p region does have a relatively stronger effect in the UK population than in other populations.

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Reply

EDITOR,—The point raised in the letter by Satsangi and Vermeire is very valid. There has been significant variation in the presence of chromosome 3p linkage with a peak LOD score of 2.7 at 9p in families than in the German families to the chromosome 3p linkage with a peak LOD score of 1.0 in the UK and 0.8 in the German families (not all markers analysed). It should be noted that each subsample is somewhat subcritical for a proper linkage analysis and thus these data have to be viewed with caution.

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Indecision and irritable bowel disease

EDITOR,—The Guidelines for the management of the irritable bowel syndrome supplement was a commendable step. However, there are areas which tend to be handled quite effectively with physicians tending to depend more and more on sources other than reading for their continuing education. Actual guidance is also necessary, especially from what physicians such as Almy and Kirsner have found does and does not work. Sadly they were not quoted. In addition, indecision and “fence sitting” has been found to be the most common stressful life situation present at the time of onset or relapse of IBS. Therefore, any indecisions on the part of doctors about choice of treatment of IBS is likely to be picked up by their patients.

The guidelines rightly point out the limitations of “end organ” treatments compared with centrally directed therapies, such as hypnosis and relaxation methods. However, these are also rarely effective when a patient has a nagging personal problem at the back of his or her mind. Uncovering such doubts requires open ended questions as recommended by Almy. Patients may be encouraged to make such decisions by the likelihood of remission of symptoms if they do.

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Reply

The importance of stressful life events is of course well recognized and new evidence is constantly accumulating. In addition to the earlier papers quoted by Dr Paulley, more recent publications in Gut indicate that resolution of chronic life stress is important predictors of clinical outcome in irritable bowel syndrome supporting the earlier publications quoted by Dr Paulley.

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BOOK REVIEWS


A booklet little larger than the size of a two column (10 cm x 17 cm) may seem unimportant. But this is an exception. This publication is for patients with ulcerative colitis and such sources of information should be the concern of gastroenterologists. It has been written by Andrew Robinson, whose self management programme for patients with colitis lead to fewer outpatient visits, more rapid treatment of relapse, and improved patient satisfaction (Gut 1999; 44:A12), and Anne Kennedy, a research fellow in gastroenterology who has been assisted by a professional writer and sensibly had the guide endorsed by the Plain English Campaign.

The guide consists of two booklets in a single plastic folder. Part 1 includes an overview of ulcerative colitis, its causes, tests, treatment, and surgery. Part 2 is an individual patient record. There is much to be commended, with detailed information helpfully summarised in coloured boxes ("Things to Remember"), or treatment options discussed ("Your Choice") and anecdotes from patients that give a personal appeal. Clinical views and opinions are, on the whole, well balanced and I could see this guide being a valuable contribution to patient information. Faults however qualify this commendation. The surgical subsection on ileorectal anastomosis for ulcerative colitis is wholly inappropriate and there is confusion in terminology in the section on pouch surgery. Factual errors (such as a "2% risk" of ulcerative colitis in offspring, or "s. mercaptopurine") and statements such as "immunosuppressants may make your baby very small and can lead to abnormalities" are simply misleading. Indeed the whole section on pregnancy is poor, with two anecdotes from patients advising cutting down or stopping maintenance therapy. It was surprising that there was no information for adolescents, or on osteoporosis, and little mention about the dilemmas of coexisting irritable bowel syndrome or the implications of differentiating ulcerative colitis from Cronh’s colitis. A brief mention of new therapies on the horizon would have suited the aim of the book, if only to highlight the importance of clinical and basic science research, which were simply ignored.

The patient record booklet is a good idea but constructed in a bizarre manner: only three pages for clinic visits but four sections for documenting “usual treatment when well” and five boxes for details on “what to do in the event of a relapse”! A 2 cm space is allotted for recording the results of monitoring steroid or azathioprine therapy when a whole record page to document the dates and results of blood monitoring would have been helpful bearing in mind that treatment with azathioprine often extends for several years. It is this sort of detail, along with the errors in the text, that gives an impression of clinical inexperience.

Nevertheless, these points are correctable and if asked by a patient I would broadly recommend the guide. There is nothing else like it on the market and it gives far more useful information than can be readily gleaned from the Internet or from pharmaceutical sponsored freebies. If the authors will stand by their commitment to update the guide every two years. This means that they should be working on the 2001 edition now. S P L TRAVIS


When I was a fellow with Allan Walker 15 years ago, gut development was a topic of interest to a handful of researchers worldwide. A classic review by Grand, Watkins, and Torii published in 1976, and Koldovsky’s monograph Development of the Functions of the Small Intestine in Mammals and Man in 1969 brought together much of what was then known about the ontogeny of the human gut. Developmental biologists were beginning to recognise the opportunities offered by this rapidly differentiating organ to understand the interactions of genetic endowment and environmental influences in early life. The focus of much research was on the process of adaptation to milk feeding. With the survival of ever more preterm infants, the function of the immature gut and its capacity to deal with enteral feeds prematurely were questions of increasing practical concern.

I had the grand idea at that time to produce a short book bringing the field together. But I quickly realised that it was growing too fast but that a full understanding of gut development and function also required an understanding of the composition and properties of human milk and the metabolism of the newborn. The developing gastrointestional tract and lactating mammary gland are complex organs, jointly involved in the transfer of nutrients and other substances from mother to infant. Until weaning the neonate is in a state of extra-gestal dependency, and breast milk and gut are analogous to the uterine-placental interface.

This book goes a long way to recognising this. Each chapter (or stand alone review) is written by a leading figure or group expert in its field. Together they cover the major aspects of gut development and function but apart from a short preface there is no overview or attempt to synthesise the book’s contents. It would be impossible for one author to write this book. The impact of molecular biology has moved the subject from an essentially descriptive science, with some experimentation in vivo, to the level of the cell and gene. This has shifted away from the womb, breast, or incubator and into the laboratory. This book is a valuable starting point for students or researchers wishing to get into the field. I hope that the basic biology of human gut development but it will be of little interest to the practising neonatologist struggling to define rational approaches to feeding the premature infant.

Medicine is now becoming a major branch of biology, concerned with the application, often experimentally, of novel therapies based on insights and new understanding of biological processes. However, at a time when the biological sciences are advancing so rapidly, and manipulation of genes within cells, including those of the embryo, is possible, the gap between the worlds of medicine and biology is widening rather than narrowing.

The last century saw the integration of medicine and science, and a determination to base the practice of the former on the latter. At the beginning of this century we are struggling to define a core of knowledge, skills, and ideas to teach our medical students. The wide scope of what we currently regard as the province of medicine now includes sociology, psychology, epidemiology, etc, and the basic sciences have been squeezed. We may be making a mistake in failing to equip medical students and young doctors with a firm understanding of the “new biology”, embracing genetics, molecular medicine, and developmental biology. This book deals with these things, and although its subject is a small part of the totality of human biology, it is dealt with in depth by recognised leaders. Ian Sanderson and Allan Walker must be congratulated for bringing their research together.

Development of the Gastrointestinal Tract is also provided as a CD-ROM but this offers little more than the facility to read it on screen. It has no search tools, nor is it possible to cut and paste sections or those wishing to produce a review article overnight. However, the opportunity to print out chapters will abolish the tedium of photocopying, and also preserve the spine of this handsome and well produced book.

I WEAVER


While the oesophagus has provided much interest to physicians and surgeons, particularly since the advent of endoscopy, manometry, and pH monitoring, to many pathologists it remained a muscular tube of relative pathological disinterest. Perhaps compared with the stomach and the intestines there is a relative paucity of interesting pathological conditions to us. But the oesophagus has certainly changed much of that perspective and the fact that entire books can now be devoted to the study of the pathology of the oesophagus is a sure sign that we can now be devoted to the study of the pathology of the oesophagus.

This volume represents the first English translation of the second edition of this book, previously published in Japanese only. Dr Takubo’s book follows the excellent, but now time expired, efforts of Drs Enterline and Thompson in producing a comprehensive pathological survey of the oesophagus. This book is certainly all inclusive and most comprehensive. It is quite beautifully illustrated, mainly in colour, and includes diverse pathological investigations such as cytology, immunohistochemistry, and electron microscopy to good effect. Most importantly, it is clinical oriented. The use of numerous endoscopic images will be of interest not only to practising endoscopists but also to pathologists and researchers.

Dr Takubo has developed an international reputation for his work in various aspects of the pathology of the oesophagus and his efforts in producing this book are to be applauded. Differences in the pathological assessment of tumours in the gut are...
Western and Japanese pathologists have recently been highlighted. In this book, inevitably favouring Japanese methodology, such differences are perhaps less marked, for the osophagus at least, than other areas of the gut and these do not cause particular concern for a Western pathologist. The only slight irritations of this book are the references which are all lumped together at the end and I found referring to these a little labourious. Otherwise, I have no complaints. All those with a keen interest in diseases of the oesophagus will find this well written, well illustrated, and extremely well researched and referenced textbook an informed read and an invaluable source of reference. I thoroughly recommend it.

N A SHEPHERD


In his preface, Dr Heatley states “Having been involved in the production of one of the established texts on this subject, and also having contributed to others, I have written this book with the generalist in mind. It is intended mainly for those in primary care but, hopefully will also be of value to many in other disciplines including hospital specialities not principally involved with H pylori management, including those in care of the elderly patients, paediatrics, general bacteriology, chemical pathology, nuclear medicine and the like.” To what extent do I think Dr Heatley has succeeded in his aims in producing a book suitable for general practitioners and other non-gastroenterologists? This is actually the second edition of a book originally published in 1995 and has been extensively updated. The book is only 64 pages in length with some 22 figures and 24 tables. It is divided into four chapters entitled: (1) Helicobacter pylori the organism; (2) Helicobacter pylori: the clinical problem; (3) Management of Helicobacter pylori infection; and (4) Managing dyspeptic conditions in the elderly. Considering the fact that thousands of original papers have been written in the 16 or so years since Barry Marshall and colleagues first “discovered” the bacteria, I think the author has summarised the relevant literature very well indeed. However, there are no references or lists of suggested reading, and I think this is a weakness.

I thought the first three chapters were excellent but was frankly a bit disappointed with the fourth and final chapter dealing with the management of dyspeptic conditions. In this era of “evidence based medicine” perhaps the author is correct to be so critical of, for example, the evidence that Helicobacter pylori is indeed a class I carcinogen, as suggested by the WHO or the Maastricht Consensus report’s recommendations on the management of Helicobacter pylori positive NUD. However, in the real world most NUD patients if told they have a bug in their stomach which if left might have a 1:4 chance of later causing a peptic ulcer or a 1:100 chance of turning into stomach cancer, will opt for eradication therapy. Textbooks in such a fast moving field as Helicobacter pylori are in danger of being out of date almost as soon as they are published. Perhaps a short term compromise would be for the interested general practitioner to first read Dr Heatley’s little book to “get up to speed” on the subject and then look at the relevant clinical sections of the excellent supplement of Gut reporting on the 5th Education Training Workshop in Helicobacter pylori held in Bologna in 1998. They would find NJ Tailey’s article entitled “How should patients with positive dyspeptic patients be managed?” particularly useful to balance out the rather negative views expressed by Dr Heatley in his book.

G D BELL


There is a great need to raise the profile of parasitic diarrhoeal disease, and this book serves the cause well. World wide the prevalence of Cryptosporidium among individuals with diarrhoea is approximately 5%. The common notion that cryptosporidiosis is purely a disease of the immunocompromised is wrong. Since the well publicised Milwaukee outbreak in 1993, and the ensuing 420 000 individuals, large waterborne outbreaks of cryptosporidiosis repeatedly occur at an alarming rate despite “state of the art” water treatment facilities, illustrated by two examples. In 1998, Sydney water supplies became heavily contaminated with Cryptosporidium leading to a full scale enquiry by the Australian government. A large outbreak occurred in London and Hertfordshire in 1997, affecting a population of 300 000 people (0·2% of the population). The results of this outbreak are documented in this book.

In the developing world, parasitic disease contribute a heavy burden to the drain of diarrhoeal disease. Maltnourished children are especially at risk of increased morbidity and mortality, both HIV negative and positive, from cryptosporidiosis and microsporidiosis. Twenty years of research on Cryptosporidium in water users, resulting in the issue of a public notice to boil drinking water. Large scale consequences of this outbreak has resulted in the issue of a public notice to boil drinking water. Large scale as a consequence, the book is particularly aimed towards infectious diseases and these are always kept up-to-date. In this era of “evidence based medicine” per-
Letters, Book reviews, Notes

Falk Symposium No 123: VI International Symposium on Inflammatory Bowel Diseases
This Falk Symposium will be held on 3–5 September 2001 in Istanbul, Turkey. Further information: Falk Foundation e.V. – Congress Division, Leinenweberstr. 5, PO Box 6529, D-79041 Freiburg, Germany. Tel: +49 761 15 14 0; fax: +49 761 15 14 359; email: symposia@falkfoundation.de

Falk Symposium No 124: Medical Imaging in Gastroenterology and Hepatology
This Falk Symposium will be held on 28–29 September 2001 in Hannover, Germany. Further information: see Falk Symposium No 123 above.

9th Asian Conference on Diarrheal Diseases and Nutrition
This meeting will be held on 28–30 September 2001 in New Delhi, India. The organisers hope the meeting will promote meaningful and effective collaboration among individuals/institutions towards control of the major health problems in Asia, particularly those affecting women and children. Further information: Professor M K Bhan, Coordinator, Centre for Diarrheal Disease and Nutrition Research, All India Institute of Medical Sciences, New Delhi. Tel: +91 11 6963822; fax: +91 11 6862662; email: ascodd2001@rediffmail.com

VI Congress of the International Xenotransplantation Association
This congress will be held on 29 September to 3 October 2001 in Chicago, USA. Further information: Felicissimo & Associates Inc., 205 Viger Avenue West, Suite 201, Montreal, Quebec, Canada H2Z 1G2. Tel: +1 514 874 1998; fax: +1 514 874 1580; email: info@ixa2001chicago.com; website: www.ixac2001chicago.com

Falk Symposium No 125: Cytokines in Liver Injury and Repair
This Falk Symposium will be held on 30 September to 1 October 2001 in Hannover, Germany. Further information: see Falk Symposium No 123 above.

Falk Symposium No 126: Hepatocyte Transplantation
This Falk Symposium will be held on 2–3 October 2001 in Hannover, Germany. Further information: see Falk Symposium No 123 above.

EASL Single Topic Conference
The EASL Single Topic Conference “Liver fibrosis: from basic science to clinical targets” will be held on 12–13 October 2001 in Florence, Italy. Organisers: Massimo Pinzani (University of Florence) and Delef Schuppan (University of Erlangen-Nuernberg). The aim of the conference is to provide the latest information on this key area of hepatology and to translate the current knowledge into clinical terms. It is directed at both the expert in the field and the general hepatologist. Further information: Massimo Pinzani, Dipartimento di Medicina Interna, Università degli Studi di Firenze, Viale GB Morgagni, 85, I-50134 Firenze, Italy. Tel: +39 055 4277485; fax: +39 055 417123; email: m.pinzani@dfc.unifi.it

Lecture Course in Coloproctology
This course will be held on 15–17 October 2001 in Harrow, UK. Professor Russell Stitz from Australia will be the Sir Alan Parks Visiting Professor and, for the first time, there will be a Sir Francis Avery Jones Visiting Professor which will be Professor Paul Rutgeerts from Belgium. Further information: The Administrator, St Mark’s Academic Institute, St Mark’s Hospital, Northwick Park, Harrow, Middx, HA1 3UJ, UK. Tel: +44 (0) 20 8235 4046/8; fax: +44 (0) 20 8235 4039; email: stmarks@ic.ac.uk; website: www.stmarkshospital.org.uk

International Symposium on Hyperammonemia, Liver Failure and Hepatic Encephalopathy
This symposium will be held on 20–22 October 2001 in Valencia, Spain. Further information: Cátedra Santiago Grisolía, Fundación Museu de les Ciències Príncep Felipe, Ciutat de les Arts i les Ciències, Valencia, Spain. Tel: +34 96 197 44 66; fax: +34 96 197 44 70; email: catedra@cac.es

ICGH-2: The Second Iranian Congress of Gastroenterology and Hepatology
The main Iranian meeting of gastroenterologists and researchers in this field will be held on 27 October to 1 November 2001 in Tehran, Iran. Further information: Dr Shahin Merat, Digestive Diseases Research Center, Shariati Hospital, N. Kargar Street, Tehran 14114, Iran. Tel: +98 911 717 3966; fax: +98 21 225 3635; email: merat@ams.ac.ir; website: www.ams.ac.ir/icgh

Falk Symposium No 127: Autoimmune Diseases in Pediatric Gastroenterology
This Falk Symposium will be held on 8–9 November 2001 in Basel, Switzerland. Further information: see Falk Symposium No 123 above.