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### ***Helicobacter pylori* infection: not associated with recurrent abdominal pain in children**

Recurrent abdominal pain in children (RAPC), defined by Apley as at least three discrete episodes of abdominal pain of sufficient severity to interrupt normal daily activities or performance occurring over a period of three months, is reported to occur in about 15% of schoolchildren<sup>1</sup> and is commonly seen in general practice. However, a definite aetiology is identified in only a minority of patients.<sup>2</sup> There is strong evidence that in adults the *Helicobacter pylori* bacillus plays an aetiological role in chronic active gastritis and peptic ulcer disease.<sup>3</sup> Infection with *H. pylori* appears to occur in childhood in a considerable proportion of the population.<sup>4</sup>

We investigated a possible role for *H. pylori* infection in children presenting in general practice with recurrent abdominal pain. Children aged 18 years or less who presented with abdominal pain and satisfied Apley's criteria were tested for *H. pylori* antibodies with a Helisal One Step (Cortecs Diagnostics) testing kit. They were compared with a control group of consecutive patients in the same age group who presented with non-gastrointestinal problems, had no recurrent gastrointestinal problems, and who required venepuncture for clinical reasons unrelated to gastrointestinal disease.

Ten cases were tested for *H. pylori* serology (range = 4–17 years [median = 10 years, nine females]). Nine patients were

tested in the control group (range = 4–14 years [median = eight years, 2 females]). All of the study group tested negative for *H. pylori*. All of the children with RAPC had a history of multiple medical consultations for the problem over many years (range = 2–11, median = five). Three children had a close relative who suffered from RAPC (none of the controls had).

In our study, none of the children with RAPC tested positive for antibodies for *H. pylori*, suggesting that it is very unlikely — despite the small numbers tested — that *H. pylori* has an important role in RAPC as seen in general practice, at least in this population. Our practice populations covered all socioeconomic groups. We have been unable to find another general practice-based study that looked at this question.

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atric patient. *Gastroenterol Clin North Am* 1993; **22**: 169-182.

### **Snakes and statistics: association does not prove causation**

It is well known in statistics that association does not prove causation. This is just as true in history. Peter Davis (*April Journal*)<sup>1</sup> fell into that trap when he urged us to 'acknowledge the true origin' of the medical symbol of staff and snake(s) as the magical statue made by Moses. Although the two symbols have the same association, and the Moses story predates the Hellenic medical tradition, this is not sufficient proof. Consideration should be given to confounding variables.

To understand the argument, consider the case of the Greek alphabet: alpha, beta, gamma and so on. The Hebrew alphabet starts aleph, beth, gimel and predated the Greek. Yet the Hebrew alphabet was not the cause of the Greek. The confounding variable was the Phoenician alphabet. The Phoenicians were a Semitic people whose skill in sailing and commerce led to the spread of their culture across the Mediterranean. The Phoenician alphabet was the common source for both the Hebrew and Greek. It disappeared under the spread of new empires, along with the Phoenicians as a separate race.

Moses' claim may rest on publication bias, since the Greeks did not commit to the written word until the eighth century BCE (Before the Common Era, a convention preferred to BC by some Hebrew scholars).

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**Table 1.** Results of study and control groups.

	Study group	Control group
Total number of patients	10	9
Male/female	1/9	7/2
Age range in years (median)	4–17 (10)	4–14 (8)
Number of consultations with RAPC (median)	2–11 (5)	0
Family history of <i>H. pylori</i> infection	2	2
Family history of peptic ulcer disease	4	3
<i>H. pylori</i> serology positive	0	1
<i>H. pylori</i> serology negative	10	8

## Negative predictive value of urine dipstick testing

Evaluation of reagent strips for testing urine samples from patients with suspected urinary tract infection (UTI) may not be generalisable because dipstick testing took place in the laboratory,<sup>1</sup> in a single general practice<sup>2</sup> or on sub-groups of patients.<sup>3</sup>

A study was devised among 10 practices in the Fareham Locality Commissioning Pilot to investigate whether dipstick testing was appropriate in routine general practice. Urine samples were collected from patients suspected to have a UTI. Children under 12 years of age and pregnant women were excluded. Practice staff performed dipstick tests (Bayer Multistix 8SG) before sending urine samples to the laboratory and recorded age, sex, symptoms, and dipstick and microbiological results. Data were received for 169 urine samples, of which 77% were from women and 78% were from people with typical UTI symptoms. Thirty-three per cent had a subsequent positive microbiological report.

A group in Oxford has devised guidelines for urine dipstick testing in general practice.<sup>4</sup> We used these criteria to determine the negative predictive value of dipstick testing. Of 89 specimens from people with typical symptoms and negative (i.e. for both leucocytes and nitrites) dipstick results, 24% had a positive microbiological result. We question whether this proportion of false negative results is acceptable.

However, the proportion of false negative results could be reduced to 9% by regarding as negative those samples that were both clear in appearance and negative for blood and protein on dipstick testing. Not only does this simplify the criteria but also offers potential resource savings. Testing sticks that include reagents for nitrites and leucocytes can be up to twice as expensive as sticks that include only reagents for blood, protein, pH, and glucose. Further studies would be necessary to confirm the validity of these criteria.

Sending samples for microbiological examination only where dipstick testing was positive could reduce the number of samples sent to the laboratory from people with typical UTI symptoms by up to 30%. Dipstick testing in individuals at low-risk of complications from a UTI therefore has the potential for savings in laboratory costs, as well as speed of diagnosis. Further data on other costs that arise as a consequence of false-negative results (e.g. increased consultations, patient discomfort) are required to assess the cost-effectiveness of urine dipstick testing in routine general practice.

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### Primary care in the United States

I read with great interest the discussion paper by Koperski on American primary care (*April Journal*).<sup>1</sup> I feel that the distinction between primary care and family practice is important but is unclear in his article. As the author correctly notes, primary care physicians can be family physicians, internists, paediatricians, and gynaecologists. However, family practice is its own specialty, like general practice in the UK.

I practice in a family practice centre, working with only family practitioners who are board certified by the American Board of Family Practice, which has strict criteria for examination and recertification of its members. In addition, most are members of the American Academy of Family Physicians, which is similar to the RCGP.

I would also comment on American family practice training. Contrary to his article, residents in fact probably spend less of their training in the hospital than I did as an SHO. Most of the first year is spent in hospitals but then only about three months in the second and final years of their three year training. Continuity of care is stressed, with residents starting in the family practice clinic from the first year. Over the three-year training period, long-term relationships are formed with their patients. I envy the longitudinal experience our residents have with time spent in subspecialty clinics while continuing in our family practice clinic.

While this does not allow the 'divorce' method mentioned in his article, it does allow the immediate application of knowledge and skills learnt. In comparing any

two health care systems, it is very important to compare like with like.

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### General Practice Morbidity Database Project

The data from the General Practice Morbidity Database Project (GPMDB) presented by Evans *et al* (*April Journal*)<sup>1</sup> illustrating a low level of usage of bronchodilator and inhaled corticosteroid medication and low recording of the Read code for asthma in patients with multiple sclerosis (MS) is interesting.

This observation is subject to several possible interpretations, some of which are explored by the authors. Another possible explanation may lie in the immune responses associated with these different illnesses. It is well established that asthma and atopy are associated with TH2 cytokine responses and that conditions that promote the antagonistic TH1 responses may be protective against the development of atopy and asthma.<sup>2</sup> MS is considered to be an autoimmune demyelinating disease of the central nervous system mediated by antigen-specific CD<sub>4</sub><sup>+</sup> T helper (TH1) T-cells,<sup>3</sup> and thus associated with immunological responses that may be protective against atopic diseases. This suggests that it may be fruitful to perform epidemiological studies on possible links between environmental factors that may promote TH1 responses, such as tuberculin responsiveness,<sup>4</sup> and the incidence of MS.

There are many interesting questions to be unravelled concerning the development of the immune system, the way in which environmental factors may influence this development, and the impact of this development on atopic and autoimmune diseases. Large primary care databases, such as the GPMDB, will have a crucial role in investigating these questions.

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## Neanderthals, doctors, and computers

James Willis raises the issue of fluidity between organisational structures within the NHS, drawing on the work of the archaeologist Steven Mithen (October *Journal*).<sup>1</sup> Cognitive fluidity<sup>2</sup> represents a new model for the most recent major transition in evolution — the integration of preadapted modules to produce the modern human mind — and is welcomed by leading evolutionists.<sup>3</sup>

But the success of this theory masks a deeper controversy that is also of relevance to doctors working in the NHS, particularly those of us now dependent on computer software. It concerns the discrepancy between the appearance of modern human activities in the archaeological record and the likely common ancestors of modern humans, which must have lived tens of thousands of years earlier.<sup>4</sup>

Discontinuities in the history of human behaviour have resulted both from genetic change and the spread of ideas. Modern human minds are, according to Mithen, the product of an integration of separate modules. Such integration is likely to have involved genetically determined changes in the brain's 'hard wiring'. If so, an onset more recent than our common ancestor implies 'convergence' of evolving pathways. Such abrupt convergence requires firstly that a large effect can result from relatively minor genetic change and that selection pressure is intense enough to prompt the change within a range of different environments.

An alternative option is that a non-genetic factor triggered cognitive fluidity, or that cognitively fluid minds existed without leaving their mark in the record for millennia. In his book *Neanderthals, Bandits and Farmers*,<sup>5</sup> Colin Tudge suggests that the propensity for agriculture was already within the behavioural repertoire of ancient hunter-gatherers, pre-empting the abrupt onset of agricultural innovation ten thou-

sand years ago. A universal, genetically determined tendency lead on to a later, multiregional shift in behaviour once the environmental and climatic conditions had changed.

As doctors at the inception of NHSNet, we face a comparable situation in that modules already in existence (such as different computer software products) need to be made compatible and interactive (i.e. fluid). This will involve changes in the 'wiring' of our organisational structures, in our working environments, and in our behaviour. The result could be a phase transition that may change the structure of the way we work beyond recognition.<sup>6</sup>

Like Willis, I am neither a Neanderthal nor a bandit but ultimately one message seems clear: either we adapt and converge or a proportion of us risk extinction.

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## Patient's partnership

The editorial by Middleton and McKinley (April *Journal*),<sup>1</sup> within their apologia of patient partnership, shows the cultural framework where such a partnership is to emerge.

First, the authors seem to assume that the defining principle is politically defined and, as such, another model to be imposed on patients. Hence the reference to national policy and the observation that not every patient will fit the defined model. If partnership was based on a shared understanding of patients' needs and doctors' abilities, then there would be nothing for patients to feel uncomfortable with: the consultation, the partnership, would be tailored to fit the actors. The authors' acknowledgement of the necessity to

understand the patient's agenda is not translated into an agreement on what the consultation is about. More than a neglected first or second part of the 'positivistic' medical consultation, it is its prelude and epilogue that are ignored.

Before doctors can pin down a problem, it is the need the patient presents and the context where such need arises that must be understood. 'Dysfunctional consultations often result from inappropriate assumptions by doctors about their patients' agendas' and medical education does not provide adequate tools for the job. Traditionally, the first part of the consultation is centred on the presenting complaint, its history, and the wider context of that problem comes at the bottom of the 'structured interview' list. This is why it is necessary to talk about the prelude of the consultation, where an understanding has to be gained regarding the need that is presented through the problem and the meanings associated with it. The symptom is precious to the patient<sup>2</sup> but we tend to depersonalise it as soon as we call it a name and it is at this point that the patient is alienated and the plot lost.

The concept that we can explore and determine patients' preferences for 'sharing' through an assessment of some multidimensional framework model is fundamentally flawed. Whatever model we use, it is bound to be a model imposed on the patient. It assumes the ability of the doctor to define what is a desirable outcome. We must face the epilogue of the consultation and accept that this is not so. The final outcome of a medical act is determined by the patient, away from the medical environment. It is within the cultural framework where the patient lives that meaning will be assigned to the medical event. The only opportunity we have to influence it is through the relationship we established with the patient. The drug 'doctor' has infinite interactions, context dependent upon any other medical intervention. Furthermore, the drug 'patient' should be recognised as even more powerful to determine outcomes. Partnership means that we assess and integrate these individualised interactions and, with the patient, within the agreed space, strive to use them to further the effects of whatever intervention is agreed.

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### Turning up the heat on doctors' performances

Information of all kinds plays a key role in the exchange of relationships of all economic systems. In a recent Viewpoint Martin Marshall (*May Journal*)<sup>1</sup> asks how much heat must be applied before doctors respond to comparative data. A more pertinent question would be: 'Is heat the best agent to catalyse the complex recipe of primary care to deliver the gourmet dish?'

Shocks to the system will inevitably produce results but there can be dysfunctional consequences. For example, there may be a tendency to focus on aspects of care that are readily measured to the detriment of other important areas. Emphasis may be placed on narrow objectives at the expense of long-term global or strategic ends and fear of falling short on measured performance may lead to a disinclination to innovate and elevate a concern to be average over the desire to be outstanding. Not only will inappropriate strategies impede progress towards goals they will also overlook the largely hidden opportunity costs associated with such activity.<sup>2</sup>

In a study of hospital providers, Goddard<sup>3</sup> concluded that the main function of 'hard' information in performance assessment is to act as a safety net to identify laggards but rarely is it used as a means to encourage good performance or to identify best practice. Often 'soft' information plays a valuable role in the assessment of performance, an approach that is reflected in current practice in the private sector.

Rather than chasing hard end points, getting the culture and organisation right may offer the best approach — if the process feels good the outcomes will look after themselves.

Perhaps it is the Government and their academic advisors that dream up the performance frameworks that need to get into the kitchen, not the doctors?

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### GP opportunities for teenage health promotion

McAvoy (*March Journal*)<sup>1</sup> highlights the scandal of inaction in the area of health promotion. Jacobson and Wilkinson<sup>2</sup> emphasised that, for teenagers, health care, including health promotion, should be appropriately tailored and targeted.

Hippisley-Cox<sup>3</sup> indicates the relevance of general practice to teenage health by reporting an association of lower teenage pregnancy rates with areas in which general practices included female or young doctors.

In a pilot study designed to test the feasibility of carrying out work among teenage mothers from a primary care base in Belfast,<sup>4</sup> we examined opportunities for health promotion among teenage mothers and their nulliparous peers by exploring their health related-behaviour and attitudes to GP care.

The 110 subjects were drawn from 36 different general practices and were aged from 15 to 19 years. Significantly more of the mothers (67%) than of their nulliparous peers (40%) reported smoking cigarettes; many in both groups reported regular alcohol consumption (69% and 78% respectively). Fewer of the mothers (42% versus 64%) believed that cholesterol checks were important in health care.

In other respects the groups were similar: over 80% believed it was important to have cervical smears; almost 70% thought blood pressure measurement was important. They reported consulting GPs about a similar range of symptoms and over 90% reported having no difficulty discussing any problem with a GP. Twenty-five per cent said they had a chronic health problem and were taking medication (not including the oral contraceptive pill); many had asthma. Approximately 60% had no preference for the gender of their GP; 10% said they would prefer to consult a male and 30% a female.

There is a concern about increasing teenage pregnancy rates and consequent health inequalities.<sup>5</sup> Addressing this problem will require complex interventions and we support Hippisley-Cox's argument that general practice has a key role to play.

While creating special clinics may be appropriate to respond to the health needs of teenagers, we suggest that optimising

primary care provision of health promotion is a realistic option. Further work needs to be done urgently to identify how best to provide this care in practice.

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