

medicine and the evolutionary causes of diseases rather than to the proximate antecedents made fashionable by Pasteur. The biological closeness of humans to chimpanzees (the only other animal to have blood group O) and man's long adaptation to living on the savannah lands of east Africa eating roots, berries, nuts and fruits explain why vitamin C is the only vitamin we do not store or manufacture and why people of African origin are protected by the sickle cell allele against malaria.¹

How well do we understand the role of fever, evolved as a defence against pathogens, when prescribing antipyretics? Some organisms such as the rabies virus and cholera bacillus have even adapted human behaviour to enhance their spread, while mutation of micro-organisms is eroding the power of antibiotics.

Why are so many of us allergic to such a natural substance as pollen? Why can we replace our gastric mucosa in 15 minutes, and the skin more slowly, but never a cerebral neurone or a damaged heart valve? Do automatic reflex withdrawal responses represent fears of stimuli from dangers encountered by our ancestors while we lack similar detectors for modern hazards such as polychlorinated biphenyls (PCBs)? Why if stress responses make the organism function more effectively, has natural selection not shaped continuous expression of these responses?

The wider perspective thrown on medical practice by Darwinian medicine enables us to understand the problems we face in modern environments, including nutritional excesses, substance dependencies, the need for orthodontia resulting from deficient demand for jaw exercise in childhood, and even child abuse. I asked eight general practitioners and one consultant obstetrician why women vomit during pregnancy and they could only give the proximate cause — high hormone levels. But why then do those who do not vomit have more miscarriages? We have to look to Profet for an explanation for this primitive and distressing affliction of pregnant women.² According to Profet's theory, plants contain toxins that protect the plants against herbivores. In some cases, these toxins make up 10% of the dry weight of a plant. A pregnant woman vomits from the 14th day to the 14th week of pregnancy in order to protect the fetus from such toxins.

We should remember that our haemoglobin is identical, in all 287 units, to that of the chimpanzee, and any special status that we may claim over chimpanzees is not a result of an enlarged genome, for we only have a modified ape genome.³

Finally, when a tennis player comes in

clutching a painful calf, you can tell him he has ruptured his plantaris, and that he is one of the 15% of people who have retained this vestigial muscle, evolved originally for climbing trees but not now evolved for extending the ankle joint to deliver a 120 mph service.

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References

1. Allison AC. Protection afforded by sickle-cell trait against subtertian malarial infection. *BMJ* 1954; **1**: 290-294.
2. Profet M. The function of allergy: immunological defense against toxins. *Q Rev Biol* 1991; **66**: 23-52.
3. Mourant AE. *Blood relations: blood groups and anthropology*. Oxford University Press, 1983.

Thrombolytics in acute myocardial infarction

Sir,

In his editorial on the use of thrombolytics in the early management of myocardial infarction,¹ Rawles appears to imply that urokinase may be used in place of streptokinase or anistreplase. As far as I am aware, urokinase does not currently have a licence in the United Kingdom for use as a thrombolytic in the treatment of myocardial infarction.

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Reference

1. Rawles J. What should be the general practitioner's role in the early management of acute myocardial infarction? [editorial]. *Br J Gen Pract* 1995; **45**: 171-173.

Reaccreditation

Sir,

Why all the fuss about reaccreditation? My original certification was based on holding bachelor of medicine and bachelor of surgery qualifications and this in turn was based on knowing the chemical formula for soap and that exhibit 24a was a uterine fibroid. Later I could have spent six months in an approved post learning

and practising little more than phlebotomy.

The testing of actual performance in general practice is a quantum step forward from my certification experience and, as a measure of the delivery of health care, is something we as general practitioners should welcome now; it is certainly what the justification of our professional future will soon hinge on.

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Family stress following a GP's death

Sir,

For a number of years, stress among members of the medical profession and their families has been a key issue and it is an area of research in which I have been actively involved since 1987.¹ When this research was started, stress was often a hidden concept in relation to the doctor's life and work, and only recently has its existence been openly acknowledged. The recent death of my husband, a retired general practitioner who worked in an inner London practice, has heightened my awareness of the problems experienced by the families of doctors after their death, including financial and social concerns. Because of its sensitivity, this issue is rarely discussed or researched among medical professionals. My own experience of this situation has therefore motivated me to set up a research study into this area.

I would be interested to hear from other spouses of doctors whose husband or wife has died, who would be willing to share their experiences and participate in this research study. I can be contacted at the address given below. All information provided would, of course, be totally confidential and would be reported anonymously.

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Reference

1. Myerson S. Improving the response rates in primary care research: some methods used in a survey on stress in general practice since the new contract (1990). *Fam Pract* 1993; **10**: 342-346.