paranasal sinus adjacent to the floor of the anterior or middle cranial fossa (shared bony wall fracture) was demonstrated in every case. Of the 30 patients, 2 refused surgery. In the other 28 patients surgical exploration was performed and the site of the fracture corresponded to a site of dural tear in every case. The image published in Dr Ouma's article is similar to a number of the images obtained in our series. The longest interval from the time of head injury to presentation with non-meningococcal meningitis in our series was 13 years. Our article was one of the first publications to document the value of direct coronal CT scanning in this setting.

In light of the current HIV / AIDS epidemic, patients with opportunistic intracranial infection would have to be excluded; otherwise it is my belief that every patient who presents with non-meningococcal meningitis should be investigated for a possible shared bony wall fracture by undergoing a direct coronal CT scan of the floor of the anterior and middle cranial fossae.

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Need and opportunities for training health professionals in medical genetics

To the Editor: Medical genetics is a subspecialty registrable with the Health Professions Council of South Africa (HPCSA). Subspecialty training in medical genetics can be undertaken in academic centres registered with the HPCSA.

Medical genetics has played an increasing role in health care over the last half century and the need for medical genetic services in many developing countries including South Africa has become apparent in the last decade. Serious birth defects and genetic disorders comprise a wide-ranging and complex group of conditions affecting 50 - 80 per 1 000 children in this country and they contribute significantly to infant mortality and morbidity. The role of genetics in medicine is set to increase as the impact of the Human Genome Project and future developments are brought to bear on the care and prevention of the chronic common disorders of later life such as cancer, hypertension, stroke, asthma and mental disorders.

Currently, South Africa boasts 13 registrable clinical geneticists and fewer genetic counsellors. These personnel are far too few to bring a reasonable service to the population of this country. Currently, three departments of human genetics in South Africa, at the Universities of Cape Town, Free State and the Witwatersrand, are registered with the HPCSAto provide sub-specialty training for clinicians in medical genetics. Unfortunately, because of financial constraints and competing priorities, posts available to undertake such training are limited.

The Department of Human Genetics of the National Health Laboratory Service (NHLS) (Central), based in Johannesburg, has academic links to the Faculty of Health Sciences, University of the Witwatersrand, and offers a 2-year training post in the subspecialty of Medical Genetics for a specialist already registered in Paediatrics, Obstetrics and Gynaecology or Internal Medicine. The Colleges of Medicine of South Africa examine appropriately trained persons for registration and a Masters degree (Medicine) can be obtained concurrently through the Faculty of Health Sciences at the University of the Witwatersrand.

The Foundation for Alcohol Related Research (FARR) is offering a bursary commensurate with the salary earned by a specialist in public service to a selected person for training in Medical Genetics. The position becomes available on 1 January 2003.

A 2-year training in Genetic Counselling (Masters in Medicine) is also available for successful applicants commencing 1 January 2003. This is a comprehensive course similar to training schedules in the USA, Australia and Europe, and is registrable in South Africa with the HPCSA. Scholarships from the NHLS and the University of the Witwatersrand are offered to successful applicants.

Applications for these fields of training can be made to: Professor Denis Viljoen, National Health Laboratory Service, PO Box 1038, Johannesburg, 2000. Tel: 011-489 9211, Fax: 011-489 9226, Email: **denis@mail.saimr.wits.ac.za**

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Two mutations in the MTHFR gene associated with mild hyperhomocysteinaemia

To the Editor: We read with much interest the article by Scholtz *et al.*[1] on the interethnic differences in frequencies of the C677T and A1298C mutations of the methylene tetrahydrofolate reductase (MTHFR) gene. The importance of their findings

probably extends beyond the associations with coronary artery disease and may have significant implications for rheumatoid arthritis (RA) patients treated with methotrexate (MTX). Low-dose MTX (7.5 - 25 mg) benefits the majority of RApatients and has become one of the most widely prescribed disease-modifying antirheumatic drugs. However, toxicity is a major concern and in some Western populations as many as 30% of patients have to discontinue therapy because of adverse effects.[2] MTX toxicity is related to its inhibition of the conversion of 5,10-methylene tetrahydrofolate to 5-methyl tetrahydrofolate. As a result there is a fall in methyl group donor levels, which in turn impedes remethylation of homocysteine to methionine and ultimately results in hyperhomocysteinaemia. Since the homozygote C677T mutation of MTHFR is also associated with hyperhomocysteinaemia, van Ede *et al.*[2] postulated that the C667T mutation might predispose to increased MTX toxicity. Indeed, in a study of Dutch RApatients,[3] they found that the mutation was associated with an increased risk of discontinuing MTX treatment because of adverse events (relative risk (RR) = 2.01), and especially an increased risk for elevated liver enzymes (RR = 2.38). The overall allele frequency of the C667T mutation of 28% in the Dutch cohort is significantly lower than the 36% in white South Africans (Yates, corrected $\chi^2 = 11.26$, $p = 0.0008$) and significantly higher than the 4% in black South Africans (Yates' corrected $\chi^2 = 19$, $p = 0.0000$) observed by Scholtz *et al.*[1] A similar relationship between this mutation and overall MTX toxicity has been observed in a Japanese cohort of RApatients.[4] In addition, the latter study showed that patients with the A1298C mutation required lower doses of MTX. Finally, there is mounting evidence showing that folate supplementation in patients treated with MTX reduces the risk of adverse effects, including liver toxicity, but at the small expense of decreased efficacy.[5]

In the light of the above studies, we would expect to see differences in MTX efficacy and toxicity in the different ethnic groups in South Africa, and in particular an increased risk of MTX toxicity in white RApatients. There are no published studies in this regard, but our experience at the Arthritis Clinic at Chris Hani Baragwanath Hospital suggests that MTX toxicity is very rare in black South Africans. In a retrospective longitudinal study of 200 black RApatients that we undertook in 1997,[6] of the 60 patients treated with MTX for a median period of 20 months (interquartile intervals: 11, 32), none discontinued the drug because of adverse effects, whereas MTX had to be discontinued in 11 patients because of lack of efficacy. It is therefore tempting to speculate that the lack of serious side-effects in our patients is related, at least in part, to the rarity of the C667T mutation in black South Africans. Clearly, this hypothesis can only be confirmed by conducting a prospective study to examine the relationship between the MTHFR gene mutations and efficacy and toxicity of MTX in the various ethnic groups in South Africa. The outcome may have practical implications for monitoring of MTX toxicity in RApatients locally, especially with regard to liver function tests.

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