this purpose. If, in the future, however, such an action is construed to be a tertiary referral chargeable to the rheumatology service, the rheumatologist may have little choice but to refer the patient back to the general practitioner and ask that a new referral, with its own waiting time, be made for a consultation with the orthopaedic surgeon.

Although extracontractual referrals provide "a fascinating insight into the sociodynamics of referral patterns,"[2] I share Dr J D Williamson's concern over the disproportionate amount of resources spent on monitoring them.[3] They are a complex issue. Though national debate is necessary to resolve many of the problems highlighted, action should be undertaken at a local level to ensure informed decision making. General practitioners, hospital consultants, public health physicians, managers, and patient advocates have legitimate stakes in extracontractual referrals and should participate in their management, including agreeing criteria for funding them and an appeals procedure.

RAJAN MADHOK

South Tees Health Authority,
Poole Hospital,
Middlesbrough,
Cleveland TS7 0NJ

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Malingerers, vagrants, and extracontractual arrangements

SIR,—The dramatic changes that were introduced on 1 April this year as part of the restructuring of the NHS have revealed a novel method of diagnosing possible Munchausen's syndrome.[1]

Diagnosis of Munchausen's syndrome exclusively by public health physicians can present difficulties. Firstly, there is the problem of correctly ascertaining the diagnosis without even seeing the patient or hospital notes. Secondly, if other directors of public health medicine are alerted to a presumptive diagnosis of Munchausen's syndrome and the patient turns out to be genuinely ill the seeds are already sown for a minefield of litigation. We believe that within the context of the new NHS this case highlights several important issues that may affect not only managerial procedures within health authorities but also the patients for whom they have responsibility to care.

From 1 April the concept of residency has acquired a new meaning and importance. Essentially, each individual has a health care budget, the guardian of which is the health authority within whose boundaries the patient lives or the fundholding practice with which the patient is registered. Recently, bureaucratic delays were noted when a child moved 8 km from the jurisdiction of one authority to another.[2] The situation is potentially far more serious in the case of patients with a wandering lifestyle or those who are homeless. The question of residency in such cases is far from clear, as is therefore the question of financial responsibility for the patient's care. This difficulty is compounded by the lack of a consistent protocol for dealing with extracontractual arrangements within different authorities, with the resultant danger of patients falling somewhere between the jurisdiction of two or more authorities.

Patients who undergo multiple admissions to hospitals outside the boundaries of their health authority can be draining financially. Government regulations state that "A patient shall be treated as usually resident at the address which he gives to the person or body providing him with services as being that which he usually resides."[3] Under such circumstances a general notification to health authorities of a diagnosis Munchausen's syndrome or of malingering, although clinically desirable, could within the present NHS climate be taken as a green light to abrogate financial responsibility to the subsequent detriment of patient care.

HUW M PERRY
T RYLAND JONES
DOROTHY WRIGHT
BEVERLEY N C LITTLEPAGE

West Glamorgan Health Authority,
Swansea SA1 5AQ

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Drug Points

Warfarin potentiated by proguanil

Drs G ARMSTRONG and MF BEG and Mr S SCAHILL (Taranaki Base Hospital, New Plymouth, New Zealand) write: We report a probable drug interaction in which warfarin was potentiated by proguanil. We have found no previous case report.

A 59 year old woman presented in February 1990 with a four day history of haematuria, bruising, abdominal and flank discomfort, nausea, and vomiting. After a right sided stroke in 1981 she had been stabilised on warfarin. She had had no adverse effects, and her prothrombin ratio was easily maintained in the therapeutic range. Six weeks before presentation she had started taking the antimalarial drug proguanil 200 mg daily. She had then left Britain for Thailand, Bali, Australia, and New Zealand. Her prothrombin ratio was not checked while she was on holiday. She was taking no other drugs. The day before admission she presented to a general practitioner with haematuria and her drugs were discontinued. In hospital her temperature was normal and the only abnormality was a bruise on her right flank.

Investigation showed a prothrombin ratio of 8·6, haemoglobin concentration 11·1 g/dl, packed cell volume 0·34, mean cell volume 96 fl, and an erythrocyte sedimentation rate of 122 mm in the first hour. The results of chest radiography, electrocardiography, white cell count, and routine biochemistry, including liver function tests, serum B-12 and folate concentrations, and protein electrophoresis, were within normal limits. Analysis of urine showed severe haematuria.

She was given one unit of fresh frozen plasma and 10 mg vitamin K intramuscularly. Twelve hours later her prothrombin ratio was 2·3. Her haematuria stopped after three days and she remained well with no other bleeding.

We have not found any reports of an interaction between warfarin and proguanil. Proguanil is a prodrug that is converted in vivo to its active metabolite, cycloguanil, which is a potent inhibitor of plasmodial dihydrofolate reductase.[1] Because only 14% of circulating proguanil is bound to albumin,[2] displacement of warfarin bound to albumin is unlikely.

Two studies confirm that trimethoprim (a derivative of pyrimidine structurally related to proguanil) in combination with sulphamethoxazole (as co-trimaxozole) enhances the hypoprothrombinaemic response to warfarin.[3,4] Co-trimoxazole stereoselectively inhibits the oxidative metabolism of S-warfarin, the more potent of the two enantiomorphs in the racemic warfarin mixture.[4] Which component of co-trimoxazole is responsible for this interaction is not known. Thus the mechanism of interaction between warfarin and the trimethoprim related compound proguanil is unknown. For patients taking warfarin, our experience suggests that antimalarial prophylaxis should not include proguanil.

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Dr S V JASSAL (Wakehurst Geriatric Medical Unit, Belfast City Hospital) writes: A woman aged 77 was well known to our unit with a long history of non-insulin dependent diabetes mellitus, rheumatoid arthritis, and recurrent congestive cardiac failure secondary to rheumatic heart disease. Since 1958 she had been maintained without difficulty on warfarin, the dose varying between 2 mg and 3 mg. Her drug compliance was excellent, and although she had had numerous admissions there was no history of haemorrhagic diathesis. Her diabetes had remained stable on dietary control alone and she had at no stage required any insulin or oral hypoglycaemic drugs.

In August 1990 she was admitted with symptoms and signs of cardiac failure and treated with 160 mg frusemide orally for four days. During this period her blood sugar concentration ranged from 18 mmol/l to 20 mmol/l. She was started on a sliding scale of insulin, and after four days her treatment was changed to glibenclamide 10 mg daily. Her international normalised ratio on admission was 2·0, and before glibenclamide was started it was 2·3. During this time she also took potassium chloride (Slow-K two tablets twice daily), digoxin 62·5 μg daily, isosorbide mononitrate 20 mg twice daily, and warfarin 3 mg daily.

Forty eight hours after starting glibenclamide she reported bruising around her right shoulder and upper arm. Within two hours this had spread to the soft tissues of her chest wall, tracking down towards the abdomen. Her international normalised ratio at this time was 6·6. She was given two units of fresh frozen plasma and warfarin was stopped. Despite four further transfusions with fresh frozen plasma and fresh packed cells her coagulation remained abnormal (international normalised ratio=5·2). The glibenclamide was stopped and within 24 hours her international normalised ratio returned to normal (2·2). Seventy two hours had passed from the initial bruising to correction of the coagulation. Unfortunately, the soft tissue haemorrhage extended and formed two large haematomas. These later became infected and the patient died after a protracted course.

Although interactions between sulphonylurea drugs and warfarin have been recognised since 1970, these apply largely to chlorpropamide. The Committee on Safety of Medicines has received no previous reports of glibenclamide potentiating warfarin. Studies in the 1950s of the interaction between dicoumarol and tolbutamide showed no in vitro effects of tolbutamide on the prothrombin time in patients treated with dicoumarol.[1] Similarly, the simultaneous administration of tolbutamide and dicoumarol rarely causes changes in the hypoprothrombinaemic effect of dicoumarol. This seems to be because of the complexity of interactions rather than the lack of interactions.[2] We therefore propose that combinations of these drugs be used with caution.

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