

often develop multiple follicles regardless of the dose given.

What then can be done to reduce the incidence of high order multiple pregnancies without denying treatment to many infertile women? Firstly, clomiphene citrate should be the treatment of first choice for anovulatory patients. Rates of conception per cycle when clomiphene citrate is given are half those when human menopausal gonadotrophin is given, but the incidence of twin pregnancy is also halved and the incidences of triplet and higher order pregnancies are much lower.³ Secondly, multiple pregnancy resulting from treatment with human menopausal gonadotrophin may be prevented, despite the development of multiple follicles, by gamete intrafallopian transfer, with the number of oocytes returned to the fallopian tubes limited to two or three, and by in vitro fertilisation, with a similar limit on the number of embryos transferred.

Although advanced technologies are expensive, their cost would be saved many times over because they save the high cost of caring for mothers and multiple low birthweight babies in hospital.

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A chance for those who can't pay for IVF

EDITOR,—Margaret Dolley's article on infertility treatment in Denmark raises several issues.¹ One of the main ones is that in Denmark, as in Britain, in vitro fertilisation is a licensed procedure whereas hormone treatment for infertility is unregulated. The debate in Denmark arose because a high order multiple pregnancy resulted after a woman attending a private fertility clinic was given gonadotrophins. This case occurred not long after sextuplets were born to a woman in Leeds after infertility treatment; that resulted in a similar clamour in Britain.

We do not think that the use of gonadotrophins for treatment other than in vitro fertilisation requires regulation. Facilities for treatment in the public sector in Britain are woefully inadequate. Government funding for infertility treatment is almost non-existent. As a consequence, such treatment is available mainly to those who can pay for it. This is unsatisfactory. The controversy over regulation of gonadotrophin treatment needs urgent examination. Many of those who cannot pay for in vitro fertilisation are consigned to long periods of expectant management and hopelessness. We believe that gonadotrophin treatment under the auspices of the NHS is an important aspect of proactive management by infertility specialists.² The imposition of regulation would impose a burden of cost that would further restrict access to treatment (the Human Fertilisation and Embryology Authority, which licenses about 15 000 cycles of in vitro fertilisation a year, imposes a £30 licence fee per cycle).

In summary, gonadotrophin treatment is important for many patients, and regulation would impose further restraints on already limited access to NHS resources. Clear guidelines, such as those outlined in a book recently published by the Royal College of Obstetricians and Gynaecologists,³ should be widely disseminated and adhered to.

Under these circumstances, access to NHS fertility treatment with gonadotrophins will be maintained.

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Thyroid function in elderly people

EDITOR,—Peter Roe and colleagues outlined a practical approach to managing thyroid disease in elderly people.¹ We were concerned, however, by the subsequent letter recommending the use of the thyrotrophin releasing hormone test as a discriminator in patients with a raised thyroid stimulating hormone concentration and positive for autoantibodies.²

Three points need clarification. Firstly, there are few occasions when the ultrasensitive assay of thyroid stimulating hormone fails to diagnose hypothyroidism.³ Tunbridge *et al* reported that patients who both have a mildly raised thyroid stimulating hormone concentration and are positive for autoantibodies have an annual risk of developing hypothyroidism of 5% and should be treated with thyroxine whereas those with only one of these two factors have no such risk.⁴ Finally, thyrotrophin releasing hormone is a vasoactive chemical; side effects are usually mild and include nausea, flushing, and a desire to micturate. Rarely, pituitary apoplexy has been reported,⁵ although to our knowledge only in people with pituitary tumours.

The thyrotrophin releasing hormone test should be used judiciously, particularly in frail elderly people. It continues to have a useful role in the evaluation of the hypothalamic-pituitary axis.

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Psychiatric consequences of road traffic accidents

Consider somatoform pain disorder

EDITOR,—Richard Mayou and colleagues found that almost a quarter of their sample of victims of road traffic accidents had long term psychiatric problems at one year follow up.¹ We recently studied a consecutive series of people referred by solicitors for psychiatric assessment because of civil litigation claims. Fifty six of these people were victims of road traffic accidents that did not result in a concussive head injury.

We found a similar range of psychiatric disorders in our series to that found by the authors; it included post-traumatic stress disorder (18 cases),

anxiety disorder (10), phobic travel anxiety (6), mood disorder (4), and adjustment disorder (3). In addition, however, 15 people had disorders characterised by preoccupation with pain in the absence of adequate physical findings to account for its duration or intensity. The recommended diagnostic term for such cases is somatoform pain disorder.² The mean time from the accident to the psychiatric report was 2.7 (range 1.3-7.0) years. The main site of pain was the back (9), knee (4), shoulder (1), and hip (1). Most of the people had been sent home after treatment in an accident and emergency department, only two having required inpatient treatment. None had suffered fractures.

People with somatoform pain disorder are often described as having "compensation neurosis" despite compelling evidence that similar symptoms occur after traumatic injuries in patients who are not pursuing claims for compensation³ and that symptomatic improvement rarely occurs after settlement of a claim.⁴

Only three of the 15 people who had somatoform pain disorder had previously been treated by their general practitioners for psychiatric problems. One third were described by informants as having obsessional personality traits. Five were subsequently treated with antidepressants by their general practitioners (including both of those who had previously been treated for depression and two of those who had obsessional traits).

Mayou and colleagues' criterion for including patients in their study (that they had multiple injuries or whiplash injury) was not fulfilled by any of our subjects with somatoform pain disorder. Many patients with relatively minor physical injuries would probably have to be screened for a substantial number of cases of somatoform pain disorder to be picked up prospectively. Nevertheless, we argue that somatoform pain disorder is an important psychiatric consequence of road traffic accidents and merits further research.

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Children may be seriously affected

EDITOR,—Richard Mayou and colleagues highlight the hitherto underestimated psychiatric morbidity among adult victims of road traffic accidents.¹ We suggest that such morbidity is also important in children.

Post-traumatic stress reactions have been estimated to occur in 30-50% of children exposed to psychic trauma,² and even children as young as 2½ may be affected.³ Although symptoms may be modified by a child's cognitive and developmental level, reported behavioural or emotional symptoms or observed play suggest that the child is re-experiencing the trauma, showing avoidance behaviour or increased autonomic arousal in keeping with the definition of post-traumatic stress disorder in the *International Classification of Diseases* (10th revision).⁴ Because of the relative lack of awareness about post-traumatic reactions in children we suspect that some morbidity goes unrecognised.

In our clinical practice over the past six months we have seen three children (aged 4, 11, and 13) suffering psychological sequelae of road traffic accidents. Their symptoms included nightmares in which the accident was relived, separation anxiety,

fear of the dark, sleep disturbance, reluctance to cross roads or travel by car, and a preoccupation with road safety.

Those involved in the psychological treatment of adult survivors of road traffic accidents should be aware of the possible significance of behavioural disturbance in children in the survivors' families. As children's symptoms may be closely linked to parental psychopathology (for example, post-traumatic stress disorder in a parent impedes the long term recovery of affected children²), we suggest that it may sometimes be appropriate to refer affected parents and children to children's mental health services, which emphasises a family perspective in assessment and treatment.

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Often disabling and unrecognised

EDITOR.—I share Richard Mayou and colleagues' experience that the psychological sequelae of road traffic accidents are often disabling and unrecognised, even in medicolegal work. I retrospectively reviewed the last 21 patients I saw after road traffic accidents (19 were referred locally for management and physiotherapy and two for a further opinion). The table gives details. The patients all suffered from spinal or shoulder pain; 18 had been driving their cars, two had been passengers in a car, and one had been hurt on a bus. Although standardised tests were not used, the psychological morbidity was enormous. Irritability, tearfulness, sleep disturbance, and travel anxiety each occurred in over half the sample.

Ten patients were thought to be depressed (six women, four men; mean age 37). Two patients who were mourning the death of relatives (the brother of one had been killed in a road traffic accident) were referred for psychiatric help. Five patients gained weight and became upset to

Details of 21 patients referred after road traffic accidents

	Women	Men	No data available
Sex	14	7	
Mean age (range) (years)	35 (20-56)	38 (22-56)	
Site of pain:			
Low back	3		
Neck	7	3	
Neck and back	3	3	
Shoulder	1	1	
Intrusive memories after six months*†	3	3	4
Depression	6	4	2
Tearfulness	9	4	2
Irritability	9	7	3
Sleep disturbance	10	2	2
Altered body image	6	2	5
Avoids site of accident*	2	4‡	9
Travel anxiety*	8§	5‡	4

*Not applicable to one patient, who had been a passenger in a bus and had no memory of the accident.

†Not applicable to one patient, who had no memory of accident.

‡One patient had not driven since accident.

§One patient had been housebound since accident.

variable degrees by their changed body image, one feeling suicidal. One was so distressed (depressed on the Beck depression inventory) that he misused alcohol, assaulted his father in law, was deserted by his wife, and took an overdose. Another relationship did not survive the post-traumatic irritability, and two women postponed committing themselves to their partners. Depression in two other women was complicated by nightmares in which they relived their accidents. The final three patients were unable to cope with their responsibilities and were weepy; one felt suicidal and made her will.

Of the remaining 11 patients, only one had no psychological sequelae and two had only travel anxiety. The others had a combination of symptoms reflecting post-traumatic stress, depressive symptoms, or irritability.

Of the 10 medicolegal reports prepared by other people that were available to me, one noted nervousness when being driven (compatible with travel anxiety); one commented on tension and tearfulness during examination; one thought that symptoms were "simulated" or due to "hysteria"; and one thought that the patient had adopted a "sick role." None made any assessment of mood, depression, or post-traumatic stress.

Mayou and colleagues' work¹ adds to the growing knowledge of the interactions between the physical and psychosocial components of spinal pain^{2,3} and supports Cohen and Pfeffer's advice for early psychiatric assessment of patients after trauma.⁴ Physicians and surgeons treating patients with musculoskeletal disorders require much better training in assessing and managing psychosocial disability.

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Loss of memory is protective

EDITOR.—Having read Richard Mayou and colleagues' article on the potential psychiatric problems in victims of road traffic accidents, I wish to add a note of historical interest about some patients who became unconscious after major trauma.¹

In November 1942 a fire broke out in the Cocoman Grove nightclub in Boston, United States, killing 491 people and injuring many more; it became known as the Cocoman Grove disaster. Reporting on the neuropsychiatric complications in victims of this disaster, Adler noted that, of the 20 patients who did not develop psychiatric complications, 15 had lost consciousness, which in 12 cases lasted over an hour. Of the 25 patients with psychiatric complications, 14 had lost consciousness but only for a short time (less than an hour in 10 cases). Adler reported, "Therefore unconsciousness, and in particular prolonged unconsciousness, prevailed in patients who had stayed free of psychiatric complications, whereas there was no loss of consciousness and it was of very short duration in most of the patients with post traumatic mental complications."²

Loss of consciousness and, consequently, the absence of any memory of an incident links in with the finding that people with horrific memories of an incident often develop post-traumatic stress disorder. Therefore, becoming unconscious after major trauma seems to be a good prognostic indicator in terms of post-traumatic stress disorder, and amnesia seems to play an important part in this process.

Virtually nothing is known about the neuro-biochemistry of unconsciousness.³ Adler's findings on the Cocoman Grove disaster highlight the need for research into unconsciousness as the findings would have implications for the management of post-traumatic stress disorder.

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Phobias linked to chronic pain

EDITOR.—Accident phobias and post-traumatic stress disorder are complications of road traffic accidents, and I frequently see patients with these conditions at my multidisciplinary pain clinic as well as my anxiety disorders clinic. I agree with most of the conclusions of Richard Mayou and colleagues but offer some elaboration.¹

Several reports have described accident phobias and post-traumatic stress disorder after road traffic accidents.^{2,4} These reports have described chronic cases of psychiatric morbidity, and the prospective study of acute cases by Mayou and colleagues is an important contribution. Phobias and post-traumatic stress disorder seem to be more common in patients with chronic pain than in the patients in Mayou and colleagues' study, who presented as acute emergencies. The prevalence of phobias in patients seen at this clinic after road traffic accidents is 30-40%.^{3,4} In a comparative study phobias were two and a half times more common in patients with pain who had a history of a road traffic accident at the onset of pain than in patients with a different onset of pain.³ Fewer than 40% of people with chronic accident phobia met the full diagnostic criteria for post-traumatic stress disorder.^{3,4} Roughly one fifth admitted to a history of anxiety disorder.^{2,3} Concurrent chronic pain was common.^{2,4} Perhaps past anxiety disorder and comorbid pain predispose towards chronicity of accident phobia.

People with agoraphobia have fears about driving, but these differ from accident phobia. People with agoraphobia fear that sudden incapacitation by a panic attack may result in their losing control of a vehicle they are driving. People with accident phobias fear future accidents. They are overanxious as drivers and, more characteristically, lose the ability to be trusting passengers. Accident phobia is more circumscribed than agoraphobia and reflects the person's experience of an accident.⁴ Behavioural management—in particular, exposure therapy—may be efficacious.³ I believe that exposure therapy must address the particular concerns about safety that people with accident phobia have. I am not aware of any controlled studies of treatment.

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