ness in properly conducted double-blind comparisons with placebo. Such reports vastly outnumber reports showing no such differences.

May I conclude, Sir, by asserting that the hazards of treatment with psychotropic drugs are far outweighed by the hazards of leaving untreated those illnesses for which they are indicated.

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¹ Wheatley, D, *Psychopharmacology in Family Practice*, p 170. London, Heinemann Medical, 1973.

Takayasu's disease and giant cell arteritis—a single disease?

SIR,—We would dispute the statement made in a recent leading article (12 March, p 667) that Takayasu's disease can be distinguished clinically and pathologically from giant cell arteritis. We describe a patient who presents features common to both which highlight our contention that they are not separate entities but form components of a continuous spectrum of inflammatory arterial disease.

In 1971 a 55-year-old woman developed aching and weakness of the shoulders, hips, and thighs which was worst on rising in the morning and was relieved by activity. Her general practitioner diagnosed rheumatoid arthritis and treated her with steroids. She developed severe back pain due to osteoporotic vertebral collapse, and the steroids were stopped. One year later she again complained of aching and weakness of the limb girdle muscles. The ESR was 30 mm in the first hour. A diagnosis of polymyalgia rheumatica was made, and steroids were restarted. Once again there was dramatic clinical improvement, but following a further episode of back pain they were discontinued. The ESR rose to between 70 and 120 mm in the first hour and her symptoms recurred but were partially relieved by indomethacin. She developed a microcytic, hypochromic anaemia which did not respond to iron supplements and for which she required transfusion.

She was admitted to this hospital in December 1976 with a six-month history of increasing malaise, anorexia, and tiredness. For four months she had noticed constant tingling in all the fingers of both hands and, increasingly, pain in both shoulders and arms, worse on exertion and relieved by rest. By the time of admission she was unable to do even light housework. On examination she was afebrile and anaemic, her hands were cold and white, and no axillary, brachial, or radial pulses could be felt in either arm. There was a loud right subclavian bruit. All other pulses were normal. Blood pressure (popliteal artery) was 200/90 mm Hg. Investigations showed haemoglobin 10.7 g/dl, normochromic, normocytic red cells. The ESR was 83 mm in the first hour. The bone marrow was of normal cellularity, iron stores were plentiful, and erythropoiesis was normoblastic. Serum iron 4.5 μ mol/l, iron binding capacity 31.5 μ mol/l. The alkaline phosphatase was normal. The Wassermann reaction and rheumatoid and antinuclear factors were negative. There was a diffuse elevation of α_2 and γ globulins, IgG raised, 17.75 g/l, IgA and IgM normal. Thyroid function was normal. Spinal x-rays showed generalised osteoporosis and collapse of D4, 7, and 8. On arch aortography stenoses of both subclavian arteries involving the origin of the vertebral arteries were seen. The aorta and all its other large branches were examined and found to be normal. The patient was treated with prednisolone, 100 mg on alternate days. Her tiredness and malaise improved and five weeks later the ESR had fallen to 29 mm in the first hour and the haemoglobin had risen to 12.9 g/dl, but the symptoms of upper limb claudication persisted unchanged.

The clinical and pathological overlap

between polymyalgia rheumatica and temporal arteritis is such that they are now usually accepted as manifestations of one condition, polymyalgia arteritica or giant cell arteritis.¹ Similar overlap occurs between giant cell arteritis and Takayasu's disease. Our patient's illness illustrates the systemic disturbances which may precede and accompany the specific features of arterial insufficiency, the anaemia, the high ESR, and the response to steroids common to both. That giant cell arteritis may cause large vessel occlusion and an aortic arch syndrome identical to that of Takayasu's disease is well documented.² A female preponderance is common to both² and both may burn themselves out. Far from being pathologically distinct their microscopic morphology is said to be indistinguishable.¹ A panarteritis with giant cell formation occurs in both and may affect both large and medium sized vessels.³ The sole remaining distinction, that of age, has not prevented Takayasu's disease being diagnosed in the elderly.³

We feel that an unnecessary distinction is being made and that a single disease entity exists which presents as a variety of symptom complexes whose incidence may vary with age. Hall has suggested the name "idiopathic arteritis" for what he calls the "Unholy Trinity" of cranial arteritis, polymyalgia rheumatica, and Takayasu's disease.⁴

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¹ Healy, L A, and Wilske, K R, *Medical Clinics of North America*, 1977, **61**, 261.

² Swinson, D R, et al, *Postgraduate Medical Journal*, 1976, **52**, 525.

³ Ask-Upmark, E, *Acta Medica Scandinavica*, 1954, **149**, 161.

⁴ Hall, G H, *American Heart Journal*, 1973, **85**, 835.

Diagnosing familial hypercholesterolaemia in childhood

SIR,—Dr J V Leonard and his colleagues (18 June, p 1566) provide very interesting data on serum cholesterol and low density lipoprotein (LDL) cholesterol levels in children for the diagnosis of familial hypercholesterolaemia (FH). They conclude that when the total serum cholesterol concentration is in the range of 6.5-7.0 mmol/l (250-270 mg/100 ml) the diagnosis of FH cannot be made or excluded with complete confidence. They make the point that alternative methods of diagnosing FH are needed and suggest that the abnormality of the LDL receptor sites¹ on cells might provide the basis for a test with greater discriminating capacity than the determination of total serum cholesterol or LDL cholesterol.

Regulation of HMG CoA reductase activity in leucocytes in members of family of patient heterozygous for FH

Sex	Age (years)	Serum cholesterol (mmol/l)	Serum triglycerides (mmol/l)	HMG CoA reductase activity (nmol mevalonate/g protein in 15 min)	
				Delipidated fetal calf serum	Complete fetal calf serum
F	16	4.29	0.81	30.0	Not detectable
F	14	5.46	0.81	36.0	2.7
F	10	3.51	0.73	31.1	Not detectable
F	8	3.38	0.66	42.5	Not detectable
M	10	5.20	1.45	47.0	Not detectable
F	8	4.68	1.28	41.0	Not detectable
M	10	5.46	1.03	53.5	47.2*
M	3	5.72	1.49	57.1	32.1*
F	8	5.38	1.49	59.2	38.1*
F	6	7.80	1.01	55.4	40.0*

*Failure of normal regulation.

Conversion: SI to traditional units—Cholesterol: 1 nmol/l $\approx$ 38.7 mg/100 ml. Triglycerides: 1 nmol/l $\approx$ 88.6 mg/100 ml.

We would like to draw the authors' attention to our report published in the *BMJ* in 1975.² We investigated 16 members of the family of a patient heterozygous for FH by measuring the regulation of 3-hydroxy-3-methylglutaryl coenzyme-A reductase (HMG CoA reductase) activity (which probably depends on an intact LDL receptor) in freshly prepared leucocytes preincubated in delipidated serum and then transferred to medium containing complete serum. In normal subjects there was almost complete suppression of enzyme activity on transfer of the cells to medium containing complete serum; patients heterozygous for FH showed only partial suppression. Ten members of the family were aged 16 years or under (see table). We found that four children of the family showed failure of normal regulation of HMG CoA reductase activity and in only one of these children was the serum cholesterol level unequivocally raised. We assume that failure of regulation of HMG CoA reductase is close to the genetic defect and is a diagnostic marker for the disease in this kindred.

We would, however, offer a word of caution in that we have subsequently found one member of a kindred heterozygous for FH with massive tendon xanthomata and premature myocardial infarction who shows no abnormality in the regulation of HMG CoA reductase,³ suggesting heterogeneity in this condition.

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¹ Brown, M S, and Goldstein, J L, *New England Journal of Medicine*, 1976, **294**, 1386.

² Betteridge, D J, Higgins, M J P, and Galton, D J, *British Medical Journal*, 1975, **4**, 500.

³ Higgins, M J P, and Galton, D J, *European Journal of Clinical Investigation*. In press.

Phenothiazine resistance

SIR,—It has been my experience over some years that there is a small number of patients suffering from acute schizophrenia whose condition appears to be resistant to treatment with phenothiazines and thioxanthenes. Much larger than normal doses of the drugs can be given without any effect on the psychosis. In such cases my practice has been to give a short course of electric convulsion therapy (ECT), usually 3-4 treatments, which seems to break down the resistance, thus making the patient's condition sensitive to the phenothiazines. They

can then be maintained with average doses and so far I have not found that resistance occurs again.

I would be interested to hear of other people's experience with this type of case. My impression is that it does not seem to be recognised that ECT apparently brings about an alteration in the physiology which makes the condition once more susceptible to treatment with phenothiazines.

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Reviving the hospital necropsy

SIR,—In your leading article (18 June, p 1560) you apparently agree that "post-mortem room technology needs to be updated so that the pathologist is relieved of detailed dissection and his time used for more specialist work."

Of course, assistance in the post-mortem room is essential, but so far as I am concerned the examination consists of detailed dissection and I do not understand how such work can properly be delegated. Needless to say I have seen considerable embarrassment result through neglect of this principle.

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Concentration of thyroxine-binding globulin and the Thyopac-3 test

SIR,—The finding of Dr W A Burr and his colleagues (19 February, p 485) that the Thyopac-3 test appears to give inaccurate results with high serum levels of thyroxine-binding globulin (TBG) are important. A review of recent results obtained in our laboratory suggests that such underestimation of TBG may have produced a number of misleadingly high Thyopac indices in some pregnant patients.

Such false low T3 uptake results could be due to insufficient radioactive T3 in the tube to ensure saturation of the TBG at high serum levels when the recommended 100 μ l of serum is used in the test. To investigate this possibility the T3 uptake test was carried out with varying quantities of serum and the results read from a graph prepared by adding similar volumes of standard serum to Thyopac-3 tubes (the 25- μ l sample result being multiplied by 4 and so on). In addition, the T3 uptake was calculated as recommended by the manufacturer with tubes containing 100 μ l of serum.

Results of T3 uptake tests on four sera are shown in the accompanying table. These

T3 uptake values with different volumes of serum

Sample volume (μ l)	T3 uptake (%)			
	Serum 1	Serum 2	Serum 3	Serum 4
25	108	120	236	96
50	108	128	234	98
75	108	127	*	101
100	107	128	*	101
125	104	*	*	101
Manufacturer's technique (100 μ l)	107	113	140	101

*Count too high to read from graph

results suggest that with a normal T3 uptake reducing the volume has little effect. However, with high levels the reduced volume of serum produced a much higher result. Serum 3 was from a pregnant patient whose original Thyopac index put her in the "thyrotoxic" category, and subsequent review suggested that this may have been a misleading result. The reported results for patient 3 were: serum thyroxine concentration 262 nmol/l (20.4 μ g/100 ml); T3 uptake 140%; Thyopac index 198.

It is hoped to continue investigations along these lines in an attempt to modify the technique of the Thyopac-3 test to produce more meaningful results in patients with high serum TBG.

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Comparison of treatment with fast neutrons and photons

SIR,—In your issue of 25 June, you publish an article by Dr Mary Catterall and her colleagues at the Hammersmith Hospital (p 1642) about the treatment of advanced tumours of the head and neck by fast neutrons and by photons and also a letter from Mr S J Pocock (p 1661) about randomised clinical trials. This juxtaposition prompts me to write to you.

As one who is deeply interested in the evaluation of neutron therapy and the possible necessity for providing such treatment in many centres throughout the country and also as one fully aware of Dr Catterall's expertise and critical attention to detail, I would like to record my concern that some 60% of the control patients (that is, those treated with photons) were not treated by Dr Catterall or at the Hammersmith Hospital and, even more particularly, at the comment that the doses of radiation received by these patients varied widely, with an average dose lower than that in the neutron series.

Would it be possible for Dr Catterall to give a comparison between the 40% of photon-treated patients who received their treatment at the Hammersmith Hospital and either the whole of the neutron-treated patients or a smaller group whose random selection relates them to this group of photon-treated patients? I am afraid that unless such comparison can be made there will remain a doubt as to whether like is being compared with like in her report.

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Prevention and health

SIR,—In common with many if not most doctors I was prepared to give the reorganised National Health Service a fair trial. But already one disastrous consequence has become very apparent to me—there is now no single recognisable spokesman responsible for the health of the local community. The chief task of the former medical officer of health seems to have become diffused in a complicated impersonal institution called the health board. So I do not now hear the MOH's voice nor read his words extolling the virtues and

problems of preventive medicine—and neither does my regional community, which is more important. Few but the old public health diehards would deny that the former local government health departments were too variable in the quantity and quality of service they provided; nor could it be claimed that control of these services by locally elected members meant that priorities were always right. But the mandate was clear—prevention of disease and promotion of health, and at least the medical profession knew where responsibility lay.

I do not expect clear proof that the new organisation is better or worse than the old, but I do demand honest appraisal by the least biased observers. If that appraisal suggests, as my own surely does, that there should be a return to a more clearly identifiable preventive responsibility within—or without—health boards, then I trust those in power will acknowledge the error and promote a new-style medical officer of health.

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Women in medicine

SIR,—I was amazed by Professor Donald Court's statement (11 June, p 1522) that the economy cannot maintain women doctors only working four to five sessions a week for their whole career. The economy is lucky they are working at all!

It is not politically expedient to employ women—except during a world war, when nursery facilities were the best they have ever been.

It is not an economical proposition for women to work, as their salary at best is only equal to the cost of the necessary nanny and extra car.

It is not socially acceptable to appointment boards to offer a post to a woman if they have male applicants of any nationality competing for the same post.

It achieves nothing to say that the women graduates must fit the present system. It is to be hoped that when 50% of the graduates are women the system will of necessity be redefined to meet their needs.

ANNE J WHITE

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SIR,—The Review Body Report has confirmed my feeling that women doctors are becoming increasingly more important by filling more and more principal posts in general practice. I would like also to point out that the female undergraduate medical intake is approaching 50%.

On qualification many women are married or engaged and thus the prospect of embarking on one year's house jobs plus three further years' enforced vocational training before they can become principals, let alone pregnant, is daunting. The idea of part-time training amounting to six years, to be undertaken within a prescribed time limit, is even harder to contemplate.

How many good women will be lost to general practice when they take refuge in less arduous specialty training programmes—surgery, for example?

BRIDGET RENNIE

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