hydrallazine the rash and the pancytopenia resolved within 10 days. Three months later he developed a pleural effusion which was aspirated and has not recurred. After six months the anti-DNA antibody level was 10 units/ml and the ESR 24 mm in one hour.

The clinical presentation of cutaneous vasculitis induced by hydrallazine may therefore not be as dramatic as the bullous eruption of necrotising vasculitis illustrated by Dr Peacock and Professor Weatherall. The possibility of hydrallazine-induced lupus syndrome should be considered in any patient on hydrallazine who develops an erythematous rash. This case also illustrates the apparent non-specificity of the anti-double-stranded DNA antibody as measured by the Amersham kit; one would expect a low level of anti-DNA antibody in a drug-induced lupus syndrome.

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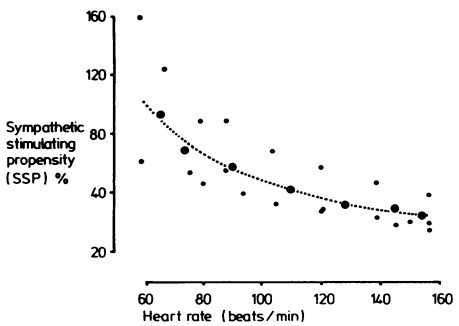
Pindolol in orthostatic hypotension

SIR,—The report by Dr A J Man in 't Veld and Professor M A D H Schalekamp (21 March, p 929) on pindolol in orthostatic hypotension is interesting. A comment on the magnitude of the intrinsic sympathomimetic activity (ISA) of pindolol is warranted. By comparing the heart rates at various activities after a high dose of a beta-blocker with ISA and one without ISA (propranolol) in fully atropinised subjects it is possible to calculate to what degree the ISA replaces the normally occurring sympathetic stimulation at each level of activity.[1]

This "sympathetic stimulating propensity" (SSP)—which at maximal sympathetic stimulation equals the pharmacologically defined ISA—was determined for three healthy male subjects treated with intravenous atropine 0·04 mg/kg body weight, using heart rate measurements at rest, during handgrip, and during bicycle exercise after 30 mg pindolol and 320 mg propranolol, each treatment being preceded by four days' twice-daily treatment with 15 mg and 160 mg respectively.

The results are given in the figure. At a heart rate of 60/min, the SSP is approximately 100%, indicating that the normally occurring sympathetic activity at that heart rate is fully substituted; however, there is individual variation—from 61% to 157%. In another series,[1] the corresponding SSP values (mean of six subjects) was 45% for oral alprenolol (800 mg daily) and 32% for oral penbutolol (80 mg daily). Thus different beta-blockers with ISA differ substantially with respect to their ability to substitute the resting sympathetic tone.



Sympathetic stimulating propensity (SSP) of pindolol, based on comparison of heart rates during various activities after a high dose of pindolol and a high dose of propranolol. Small dots represent individual values and large dots the average for both heart rate and SSP at defined activity levels.

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[1] Nyberg G, Vedin A, Wilhelmsson C. *Europ J Clin Pharmacol* 1979;**16**:381-6.

SIR,—Following the report of the benefit of pindolol in orthostatic hypotension by Dr A J Man in 't Veld and Professor M A D H Schalekamp (21 March, p 929) we report its failure in a similar case.

A 58-year-old woman with a 10-year history of progressive autonomic failure, but without evidence of multisystem degeneration, was studied. Pupillary responses indicated parasympathetic and preganglionic sympathetic denervation with supersensitivity to arecoline, phenylephrine, and hydroxyamphetamine. Other tests demonstrated widespread denervation of the autonomic nervous system—for example, loss of beat-to-beat variation, abnormal Valsalva response, etc. Despite this, however, pindolol 15 mg daily, when substituted for fludrocortisone, had no immediate effect—indeed, possible worsening of symptoms resulted.

Even in combination with fludrocortisone benefit was not clear at two weeks despite the exacerbation of marked intermittent supine hypertension and a significant chronotropic effect.

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Nebulised salbutamol for severe bronchospasm

SIR,—I would agree with Dr P G P Manson-Bahr and others (25 April, p 1367) that nebulised salbutamol has revolutionised the treatment of severe bronchospasm. Children admitted to hospital in status asthmaticus often need no other treatment. However, I would be wary about the widespread use of nebulised salbutamol in general practice except as a temporary measure before transport of the child to hospital. In hospital the allergic and psychogenic stimuli precipitating the attack may well be removed but, more important, the occasional child who deteriorates rapidly and requires intravenous hydrocortisone or aminophylline—or even, rarely, intubation and ventilation—is in a place where these facilities are at hand. I would also disagree that this treatment is effective in bronchospasm in very small babies as there are several studies suggesting no effect below the age of 18 months.[1]

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[1] Lenney W, Milner AD. *Arch Dis Child* 1978;**53**:532.

The "bridgeman"

SIR,—We read with interest Professor W S Peart's comments (25 April, p 1391) on the problem of bridging the gap between basic scientific developments and clinical psychiatry. We agree with the stress he has laid on the crucial role played by individuals who have a training both in basic science and in clinical practice and research. The training of such individuals unquestionably poses real problems and the long clinical apprenticeship, together with the difficulties of integration with scientific experience, may well prove a disincentive to all but the most dedicated individuals.

The practical problems, however, of providing a clinical environment in which psychiatric research may be carried out are not so severe as might be concluded from Professor Peart's letter and the contribution by Mackay to which he refers.[1] The Clinical Research Centre (CRC) Northwick Park was established 11 years ago to facilitate fundamental research on commonly occuring diseases. The centre includes a division of psychiatry, which is embedded in the hospital department of psychiatry serving the population of the Harrow District. Clinicians within the CRC division carry approximately 40% of the case load but are able to include a substantial number of their patients in projects within the divisional research programme. Laboratories and wards are in close proximity and there is a specifically designated research ward, in which patients can be closely observed and investigated, which forms an integral part of the acute psychiatric services of the hospital. Since the foundation of the division seven years ago a number of clinical psychiatrists have completed their training and have also acquired experience in research. A number of projects have also been carried out at Shenley, the mental hospital of the Brent and Harrow Area. These studies are being extended by the establishment of a research ward at that hospital, where a clinical scientist/psychiatrist, jointly supported by the Medical Research Council and the North-west Thames Regional Health Authority, will work.

The problems of integrating science and clinical work in psychiatry are therefore not insuperable. Their solution can clearly be facilitated by appropriate arrangements of bricks and mortar but they also require concerted efforts by the relevant authorities involved with the encouragement of research on the one hand and the health authorities on the other. If the Medical Research Council, the DHSS, and the North-west Thames Regional Health Authority can successfully achieve this at their national centre at Northwick Park is it not possible for the universities to do the same in association with the relevant regional health authorities?

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[1] Mackay AVP. *J R Soc Med* 1981;**74**:168.

Psychotherapy: experience as a medical student

SIR,—I was interested to read in the *BMJ* of 7 March (p 797) the description by Paul Garner of his experience of psychotherapy as a medical student.

I found it disturbing, however, that unqualified persons—although presumably they are suitably screened volunteers working under close supervision—are let loose on patients