the right leg at age 52 and later of left leg. No history of DVT; no family history of leg ulcers. Left inguinal herniorrhaphy at age 45.

Case 2—Born 1915, single, height 1.8 m, weight 95.3 kg. Ulceration of left leg at age 39. Mild eczema of the right leg. No history of DVT. Mother and maternal aunt had leg ulcers.

Case 3—Born 1944, single, height 1.8 m, weight 93.9 kg. Ulceration of the right leg at age 29. Four years previously he injured the right foot. This was followed by DVT and pulmonary embolus.

Case 4—Born 1918, married, height 1.77 m, weight 92.1 kg. At age 53 ulceration of the left leg developed and later eczema of the right leg. Thrombophlebitis of the left leg occurred before ulceration. History of varicose veins in his mother's family.

Case 5—Born 1924, height 1.77 m. Ulceration of right leg at age 40. Operation for varicose veins at 27. No history of phlebitis or thrombosis. His mother had varicose veins and his maternal grandmother leg ulcers. Two brothers had no leg trouble.

Case 6—Born 1907, very tall, weight 76.9 kg. Ulceration of legs present with a generalised rash at age 44. Subsequently he had eczema of both legs and a small ulcer on the medial aspect of the left ankle.

Comment

Leg ulcers, both venous and arterial, have been reported in patients with Klinefelter's syndrome. Vogt and Breit¹ described three patients in whom arterial insufficiency was considered a major cause of the ulcers and Palou *et al*² reported two similar cases. Zuppinger *et al*³ found varicose veins in eight of 24 patients with Klinefelter's syndrome, four of whom had leg ulcers. Thomsen⁴ described four patients attending a dermatology clinic, two of whom had hypostatic ulcers. Federman⁵ recorded varicose veins in eight of 24 patients, three having hypostatic ulcers.

Other conditions, particularly chronic bronchitis and emphysema and diabetes, seem to be common in these patients. The incidence of Klinefelter's syndrome is possibly 1 in 400 male live births. The statistics of hypostatic ulcers are very uncertain, perhaps 0.2-0.5% of the population being affected, with a female preponderance of 2-4:1. Peripheral vascular disease, both venous and arterial, appears to be common in Klinefelter's syndrome and should be considered in men presenting with chronic leg ulcers.

I am grateful to Dr R E Bowers, for information about cases 5 and 6.

¹ Vogt, H J, and Breit, R, *Hautarzt*, 1969, **20**, 468.

² Palou, J, *et al*, *Angiologica*, 1972, **24**, 240.

³ Zuppinger, K, *et al*, *Acta Endocrinologica (Copenhagen)*, 1967, **54**, suppl, 113.

⁴ Thomsen, K, *Ugeskrift for Laeger*, 1966, **128**, 1085.

⁵ Federman, D D, in *Abnormal Sexual Development*, p 30. Philadelphia, Saunders, 1967.

(Accepted 15 March 1978)

Neath General Hospital, Neath, West Glamorgan SA11 2LQ

RODERICK HOWELL, BM, FRCP, consultant dermatologist

Treatment of hypertensive emergencies with oral labetalol

The blood pressure may be controlled rapidly in severe hypertension by giving intravenous labetalol (Trandate), which is effective within minutes. Three out of 16 patients treated in this way complained of faintness and sweating from the prompt fall in blood pressure.¹ To prevent this tendency a constant infusion technique has been developed, which gradually reduces blood pressure over several hours of careful adjustment of infusion rate and incremental dose against recorded blood pressure levels.² The complexity of this regimen makes it unsuitable for use in a general medical ward, and we have used oral labetalol, which is effective within two hours,³ to achieve satisfactory control of blood pressure in hypertensive emergencies.

Patients, methods, and results

Eleven consecutive patients were treated, eight men and three women, aged from 32 to 68 (mean 55) years. Grade IV fundi were present in four patients and grade III in one. One patient with a grade II fundus had

hypertensive encephalopathy. All patients had "essential" hypertension with normal renal function.

Only patients admitted acutely to the general medical ward with a diastolic blood pressure (DBP) exceeding 130 mm Hg were included in the study. Starting dose of oral labetalol was either 400 mg when DBP was 140 mm Hg or higher; or 300 mg when DBP was 130 to 140 mm Hg. Subsequent doses were given at eight-hour intervals for the first 24 hours. The size of the second or third dose was dictated by the blood pressure at the time. 200 mg was given when DBP was 120 to 130 mm Hg and 100 mg when DBP ranged between 100 and 120 mm Hg. The dose was omitted when DBP fell below 100 mm Hg. Frequent blood pressure recordings were made by an Arteriosonde ultrasound apparatus, and pulse rate was taken by a trained nurse during the first 24 hours. All observations were performed in the recumbent position, and simultaneous standing blood pressure readings were made in five patients with starting dose of 300 mg.

Results are summarized in the figure, which plots the mean values ($\pm$ SEM) of blood pressure for the whole group of patients as a function of time after starting treatment with labetalol. The results of measurements in the standing position are shown separately. The graphs indicate rapid control achieved in the lying position after six hours and the steady maintenance of this level over 24 hours. The results in the standing position were less satisfactory, particularly for systolic pressure, although control was still achieved at 24 hours. Only minor changes in pulse rate were observed. No side effects or complications of treatment were noted.

The initial 24-hour period of treatment with oral labetalol in severe hypertension.

Comment

The simplicity of oral administration has obvious advantages, providing a promising alternative to parenteral treatment, which requires intensive care monitoring. Labetalol, a combined beta- and alpha-receptor blocking drug, produces good reduction in blood pressure with a first dose of 400 mg or 300 mg in severe hypertension, with a smooth and gradual effect over hours. Sustained control over the first 24 hours occurred without mishap. In this small series the rare pressor response⁴ was not observed, but a careful watch for complications should be kept at all times.

We are grateful to the shop floor workers at Smith's Industries Ltd of Ystradgynlais for purchasing the Arteriosonde; Sister M Morris of ward 9 for nursing care; and Mrs M Penhallurick for secretarial help.

¹ Rosei, E A, *et al*, *Lancet*, 1975, **2**, 1093.

² Brown, J J, *et al*, *Lancet*, 1977, **1**, 1147.

³ Ghose, R R, and Sampson, A, *Current Medical Research and Opinion*, 1977, **5**, 147.

⁴ Crofton, M, and Gabriel, R, *British Medical Journal*, 1977, **2**, 737.

(Accepted 30 March 1978)

Singleton Hospital, Swansea

R R GHOSE, FRCPED, MRCP, consultant physician

Y B MATHUR, MB, BS, medical registrar

M UPADHYAY, MB, BS, medical registrar

W D MORGAN, PHD, MSC, senior physicist

SHAHEEN KHAN, MB, BCH, house physician