- ³ Rush D. Examination of the relationship between birthweight, cigarette smoking during pregnancy and maternal weight gain. *Journal of Obstetrics and Gynaecology of the British Commonwealth* 1974;81:746-52.
- ⁴ Davies DP, Gray OP, Ellwood PD, Abernethy M. Cigarette smoking in pregnancy: associations with maternal weight gain and fetal growth. *Lancet* 1976;ii:385-7.
- ⁵ Butler NR, Goldstein H, Ross EM. Cigarette smoking in pregnancy: its influence on birth weight and perinatal mortality. *Br Med J* 1972;iii:127-30.
- ⁶ Whitelaw A. Subcutaneous fat measurement as an indication of nutrition of the fetus and newborn. In: Visser HKA, ed. *Nutricia Symposium, 5th. Nutrition and metabolism of the fetus and infant*. The Hague: Martinus Nijhoff, 1979:131-43.
- ⁷ Tanner JM, Whitehouse RH. Revised standards for triceps and subscapular skinfold in British children. *Arch Dis Child* 1975;50:142-5.
- ⁸ Davies DP, Holding RE. Neonatometer: a new infant length measurer. *Arch Dis Child* 1972;47:938-40.
- ⁹ Susser M, Stein Z. Maternal nutrition and low birth-weight. *Lancet* 1975;ii:664.
- ¹⁰ Sibert J, Jadhav M, Inbaraj SG. Maternal and fetal nutrition in south India. *Br Med J* 1978;ii:1517-8.
- ¹¹ Oakley JR, Parsons RJ, Whitelaw AGL. Standards for skinfold thickness in British newborn infants. *Arch Dis Child* 1977;52:287-90.
- ¹² Widdowson EM. Changes in body proportions and composition during growth. In: Davis JA, Dobbing J, eds. *Scientific foundations of paediatrics*. London: Heinemann, 1974:153-63.
- ¹³ Ounsted M, Ounsted C. On fetal growth rate. *Clinics in developmental medicine No 46*. London: Heinemann, 1973.

(Accepted 30 March 1981)

SHORT REPORTS

Arteritis of the arms

Arteritis affecting the arm vessels occurs in giant-cell arteritis, Takayasu's arteritis, syphilis, and Buerger's disease. The lesions are seldom confined to the arms, however, and each condition has a characteristic clinical presentation. We report on a patient with symmetrical arteritis of the arms associated with circulating immune complexes.

Case report

A 68-year-old man was admitted in February 1979 with a two-month history of severe left-sided headaches associated with two episodes of blurred vision in the left eye. He did not smoke. Physical examination was unremarkable. Results of investigations were white cell count $10.2 \times 10^9/l$ with a normal film, and erythrocyte sedimentation rate 116 mm in first hour. A biochemical screen was normal. Biopsy of the left temporal artery showed only intimal fibrosis.

Treatment with prednisolone 80 mg daily led to improvement in the headache, but shortly afterwards he developed painful dysaesthesia in the hands. This increased in severity, and three months later he was readmitted with severe pain in all fingers in the left hand and in the fourth and fifth fingers in the right hand. The fingers were cold and bluish, and all pulses in the arms below the axillary arteries were reduced in volume though still palpable. Intra-arterial thymoxamine, intravenous dextran 40, and oral phenoxymethylphenazone were given in addition to the prednisolone. The radial and ulnar pulses later became impalpable, though the symptoms in his arms remained unchanged. Arteriography showed severe stenosis of both brachial arteries, suggesting an arteritic lesion (figure). Investigations showed C3 12 mg/100 ml serum (normal range 60-135), C4 normal; high concentrations of immune complexes as judged by Clq binding; and raised concentrations of C-reactive protein. Serological tests for syphilis were negative.

Maintenance treatment with oral azathioprine and prednisolone was given. Initially his symptoms of ischaemia improved, but three weeks later the

circulation in his hands deteriorated acutely and plasma exchange was started. Biopsy specimens of the saphenous vein, right posterior tibial artery (obtained at insertion of Scribner shunts for plasma exchange), and right gastrocnemius muscle showed no evidence of vasculitis. After five plasma exchanges improvement was only marginal and cyclophosphamide was substituted for azathioprine. The circulation to his arms improved steadily, so that one year later he had only mild ischaemic pain in the forearms on exercise and the skin colour and temperature were normal. The erythrocyte sedimentation rate fell to 27 mm in first hour, the complement profile returned to normal, and no immune complexes could be detected in the blood.

Comment

The initial clinical diagnosis in this man was giant-cell arteritis. Although giant-cell arteritis of the subclavian vessels has been reported,¹ the detection of circulating immune complexes and depressed complement concentrations made this diagnosis unlikely. Buerger's disease may present in the arms but is almost confined to young men who smoke and is usually diagnosed only in patients in whom the lesion affects vessels distal to the brachial arteries.^{2,3} Takayasu's arteritis classically affects young women aged 10-30, the sex ratio being 7:1,⁴ and may be excluded in our patient because of the high concentration of immune complexes and low serum C3 concentration.

Our patient had arteritis localised to the brachial arteries associated with circulating immune complexes. He had no other evidence of immune complex deposition such as glomerulonephritis or arthritis. While immunologically mediated arteritis is rarely localised to a single vascular territory, the circulation to the limbs improved at the same time as the immune complexes disappeared. Whether this improvement was due to the spontaneous development of a collateral circulation or to reversal of the arteritis process is uncertain, as is whether the progression of the arterial disease was arrested by cyclophosphamide. Interestingly, however, it was not until cyclophosphamide was given that the circulation to the arms improved, and this improvement was associated with the disappearance of the circulating immune complexes.

The figure is reproduced by courtesy of Dr C Woodham.

Subclavian angiograms showing (left) severe stenosis of right brachial artery over 5 cm length from its origin and (right) occlusion of left brachial artery over similar extent. Distal vessels appear normal.

¹ Swinson DR, Goodwill CJ, Talbot IC. Giant cell arteritis presenting as subclavian artery occlusion. *Postgrad Med J* 1976;52:525-9.

² Inada K, Katsumura T. The entity of Buerger's disease. *Angiology* 1972;23:668-82.

³ Hirai M, Shionoya S. Arterial obstruction of the upper limb in Buerger's disease: its incidence and primary lesion. *Br J Surg* 1979;66:124-8.

⁴ Anonymous. Takayasu's arteritis. *Br Med J* 1977;ii:667.

(Accepted 25 February 1981)

University of Oxford, Oxford

ANDREW J PEACOCK, MPHIL, MRCP, registrar, Nuffield department of clinical medicine (now registrar, lung function unit, Brompton Hospital, London)

C BUNCH, MB, MRCP, lecturer, Nuffield department of clinical medicine

N J WHITE, BSC, MRCP, lecturer, department of clinical pharmacology