conversely, have reported it as the presenting feature of the disease after direct pericardial infection.[3]

In our case the history of arthritis might suggest a preceding meningococcal illness with pericarditis, arthritis, and peritonitis as later complications. The undoubted presence of organisms in the pericardial fluid, however, implies a direct bacterial mechanism.

Corticosteroids have been advocated to aid resolution of the serous effusions of meningococcal infection. Our patient, however, responded satisfactorily to antibiotics and drainage alone. Effective eradication of the organism is obviously the object of treatment and whether steroids offer further benefit seems still open to question.

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The unsupported arm: a cause of falsely raised blood pressure readings

Many technical errors can occur in measuring blood pressure with a sphygmomanometer.[1 2] We have noticed that many doctors, while measuring blood pressure in a sitting or standing patient, fail to support the arm being measured. Indeed, a survey of 40 doctors in our hospital showed that only five supported the arm. To obtain an accurate blood pressure measurement the cuff must be at heart level.[2] In the sitting or standing position this means that the upper arm must be extended forward to an angle of 45°. A person holding his arm in this position without support is undergoing isometric exercise, which causes an appreciable increase in blood pressure and heart rate.[3-5] We studied the effects of the arm being unsupported on the blood pressure in normal volunteers.

Subjects, methods, and results

Twenty normal adults (10 men and 10 women) aged 25 to 60 were studied. Their blood pressures were measured by an automated blood pressure device (Arteriosonde 1217-Roche), which uses the ultrasound principle. All blood pressures were measured in the left arm, the upper part of which was extended forward 45° so that the cuff was at heart level. The forearm was parallel to the ground. Three studies, each of which were divided into three stages, were performed. In each study the subject was seated. In the first stage the blood pressure cuff was placed on the left arm, which was then placed on a support with the cuff at heart level, and the patient was allowed to sit quietly for three minutes. During the next four minutes (stage 2) the patient continued to sit quietly but the blood pressure and heart rate were measured every minute. The mean of these four measurements was taken as the control blood pressure. The test period (stage 3) then followed for two minutes: the blood pressure was measured at 30 and 90 seconds and the heart rate every minute. In the first study the left arm was supported at heart level for these two minutes; in study 2 it was unsupported for the two minutes; and in study 3 it was supported but the right arm was raised and was unsupported. The purpose of the third study was to assess the effect on the blood pressure of isometric contraction in the arm that was not being measured.

The results are shown in the table. The blood pressure and heart rate rose moderately when the arm was unsupported (study 2). In particular, the diastolic pressure measured 90 seconds after the arm was left unsupported increased by 10·6% over the control value.

Comment

Both heart rate and blood pressure showed the greatest increase when the left arm was unsupported. The diastolic pressure rose by up to 10·6%, which may be enough to cause a patient to be considered as hypertensive. Such an increase may also influence the amount of treatment being given.

The change in blood pressure that occurs during isometric exercise is due to a combination of cardioacceleration (due to both reduced vagal and increased alpha-adrenergic stimulation) and increased peripheral resistance (due to increased alpha-adrenergic stimulation).[3] The increase in blood pressure after isometric exercise is greater in hypertensive patients than in normotensive ones[4 5] and is even more exaggerated after treatment with beta-blocking drugs.[5] Clearly, therefore, great care must be taken in measuring the blood pressure to avoid the isometric exercise that occurs when the arm is left unsupported.

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Acute infectious lymphocytosis as a T-cell lymphoproliferative syndrome

Acute infectious lymphocytosis, known in France as maladie de Carl Smith[1] because of xenophilia, is an illness (most probably viral) affecting children from 1 to 14 years of age, predominantly young infants. Symptoms are variable but include upper respiratory tract infections, diarrhoea, abdominal pain, and rashes. Lymphadenopathy and splenomegaly are always absent. The ill-defined symptoms contrast with an appreciable peripheral blood lymphocytosis varying from 40 000 to 100 000 $\times 10^9$/l with a normal haemoglobin and platelet count. We have recently determined the nature of this lymphoproliferation in term of T, B, or null cells.

Case report

A 16-month-old infant, of consanguinous parents, who had been seen at the department of paediatrics for repeated infections, was admitted to hospital with fever and diarrhoea. The result of clinical examination was normal. Initial blood count showed white cells 16·9 $\times 10^9$/l, with 30%

Mean blood pressure and heart rate (±SE of mean) during 4-minute control period and 2-minute test period in each study

	Blood pressure in control period (mm Hg)		Change in systolic pressure in test period (mm Hg)		Change in diastolic pressure in test period (mm Hg)		Heart rate in control period (beats/min)	Change in heart rate in test period (beats/min)	
	Systolic	Diastolic	30 s	90 s	30 s	90 s		30 s	90 s
Study 1	109·6 ± 2·40	72·6 ± 1·24	0 ± 1·22	+ 0·35 ± 1·2	+ 0·05 ± 0·56	+ 1·30 ± 0·92	73·65 ± 1·63	− 0·35 ± 0·60	+ 0·55 ± 0·68
Study 2	111·8 ± 1·74	73·6 ± 1·78	− 1·25 ± 1·74	+ 2·25* ± 1·74	+ 4·95 ± 1·28	+ 7·80* ± 1·13	73·3 ± 2·19	+ 4·45* ± 0·80	+ 5·25* ± 0·85
Study 3	109·3 ± 3·02	73·10 ± 1·45	+ 3·70* ± 1·09	+ 5·95* ± 1·28	+ 3·95* ± 0·83	+ 5·15* ± 1·39	73·6 ± 1·72	+ 0·9 ± 0·87	+ 2·85* ± 0·73

*P < 0·05.