

It is regrettable that P.E.F. measurements continue to be popular among clinicians,¹ despite warnings about their relative lack of sensitivity in assessing airway obstruction published in your columns years ago.^{2,3} More recent studies which have clarified the relationship between lung volume, expiratory flow rate, and alveolar pressure^{4,5} substantiate the view that "The measurement of the maximal expiratory flow rate . . . cannot be recommended as a single lung function test."⁶ Maximum expiratory flow rates depend on lung volume, and flow rates at small lung volumes are more depressed under conditions of peripheral airway obstruction than P.E.F.^{7,8} Leuallen and Fowler⁹ realized this fact long ago, when they introduced the measurement of mid-expiratory flow rate.

Measurement of spirometric values such as the F.E.V.₁ or mid-expiratory flow rate, or recordings of maximum expiratory flow-volume curves, all include, directly or indirectly, information on maximum flows occurring at smaller lung volumes than that at which P.E.F. is reached. Any one of these methods would have indicated the severity of the persistent airway obstruction in the patient of Dr. Gregg and Dr. Batten more adequately than P.E.F., and this would have called for suitable measures, such as bronchoscopy and active physiotherapy, to clear the patient's airways.—I am, etc.,

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Thrombosis and Fibrinogen Degradation Products

SIR,—Dr. J. D. Cash and others (31 May, p. 576) suggest a possible relationship between a high concentration of fibrinogen/fibrin degradation products (F.D.P.) in the serum and the occurrence of certain types of thromboembolic disease. However, as the authors indicate, this relationship is by no means invariable, as only two of four patients

with high serum concentration of F.D.P. had evidence of thromboembolism. Nevertheless, failure to detect thrombosis by clinical methods does not necessarily exclude its presence. It is generally accepted that phlebotrombosis in the pelvic veins (which may follow gynaecological operations) is difficult to diagnose by clinical means. Studies with radioactive fibrinogen (¹²⁵I) suggested that the incidence of phlebotrombosis in the postoperative period may be as high as 35%,¹ although only half of these patients had clinical signs.

We have assayed F.D.P. in the serum by the haemagglutination inhibition method during the first eight days of the puerperium in 30 women following normal delivery (62 samples) and in 16 women following caesarean section (63 samples). In two women, following caesarean section (but none in the other group), the serum concentrations of F.D.P. were considerably higher than those in the remaining patients. The results are shown in the Table.

Clinical evidence of phlebotrombosis was present in only one case (Case 1), but there were no features suggestive of pulmonary embolism. It is possible that high levels of F.D.P. in the serum may be due not only to increased production (following intravascular coagulation) but also to retarded elimination.

In some cases raised haemagglutination inhibition titres may be due not only to F.D.P. but also to fibrin monomer. Addition of protamine sulphate (to a final concentration of 1 mg./ml.) to sera with high concentrations of F.D.P. obtained from the two patients reported above gave an increased degree of flocculation. This phenomenon of "paracoagulation" is said to indicate the presence of soluble fibrin monomer—F.D.P. complexes.² As thrombin does not precipitate these complexes, they are likely to react in the immunoassay. Furthermore, samples of plasma from both these patients showed the presence of cryofibrinogen, which suggested the presence of fibrin monomer in soluble form under physiological conditions.^{2,3} Thus, it is reasonable to assume that at least in some cases fibrin monomer rather than F.D.P. is the important link between intravascular coagulation and an increased concentration in the serum of substances reacting immunologically with an antifibrinogen serum. These preliminary results suggest the need for further study in this field.—We are, etc.,

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Gangrene in Behçet's Syndrome

SIR,—The case reported by Drs. A. G. Mowat and T. E. Hothersall (7 June, p. 636) of gangrene of the forefoot in a patient with Behçet's syndrome is of considerable interest, and I would like to draw attention to experience of two further cases in which arterial lesions were a prominent feature.

In 1967, a 24-year-old milkman with Behçet's syndrome was admitted under the care of Dr. I. B. Sneddon in the Rupert Hallam Department of Dermatology at the Sheffield Royal Infirmary. Gangrene of both the patient's feet occurred and both legs had to be amputated below the knee. Histological studies showed thrombotic occlusion of the major arteries and veins, which were the seat of an acute non-specific arteritis and phlebitis involving all layers of the vessels.¹ Thus, in contrast to the Edinburgh patient, this patient's gangrene resulted from inflammatory disease of the large vessels.

The number of cases of Behçet's syndrome in which lesions of large arteries have been described is very few.²⁻⁵ The fact that a bruit was audible over the femoral artery in the patient described by Drs. Mowat and Hothersall raises the possibility of an underlying arterial aneurysm at this site and may be considered an indication for angiography and definitive surgery as prophylaxis against further complications. The histological nature of such a lesion had not been documented until recently, when I and others described the development of spontaneous bilateral popliteal artery aneurysms in a 16-year-old boy with Behçet's syndrome.⁶ We were able to show that a non-specific primary acute arteritis had resulted in aneurysm formation and rupture. Attempts at reconstructive surgery were not wholly successful, but we were fortunate in that adequate collateral circulation developed to ensure viability of the limb distal to the aneurysm.—I am, etc.,

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Iatrogenic Septicaemia

SIR,—We were interested in the article by Dr. J. H. Darrell and Professor L. P. Garrod (24 May, p. 481) but not surprised by their findings or conclusions. In 1962 we demonstrated a strong correlation between bacterial contamination of "cut-down" sites and the development of infective thrombophlebitis, and showed that both could be reduced by improved aseptic and antiseptic technique.¹

While we are, of course, disappointed that neither Dr. Darrell and Professor Garrod nor your leading article (p. 462) referred to our work, we would be even more distressed if we thought that it had also escaped the attention of clinical chiefs responsible for the

Day of puerperium	Serum F.D.P. (µg./ml.)									
	1	2	3	4	5	6	7	8	9	10
Case 1	—	—	192	160	24	8	12	8	8	6
Case 2	—	10	—	—	128	80	12	4	4	4
30 women following vaginal delivery (mean and S.D.)	10.0 ± 6.4 (n=19)		11.2 ± 3.6 (n=12)		11.3 ± 5.1 (n=15)		7.3 ± 3.9 (n=16)		—	
14 women following caesarean section (mean and S.D.)	16.3 ± 5.8 (n=14)		20.3 ± 9.8 (n=12)		17.5 ± 0.9 (n=11)		12.0 ± 4.0 (n=11)		—	