

Pointers

Thromboembolism and the "Pill": "Strong relation" found between use of oral contraceptives and death from pulmonary embolism or cerebral thrombosis but not coronary thrombosis. Risk unrelated to pill formula (p. 193). Hospital study shows venous thromboembolism to be about nine times more frequent in patients on oral contraceptives than in controls (p. 199); Leader this page.

Scintillation Scanning: Useful in diagnosis of pulmonary embolism and helpful in assessing effectiveness of anticoagulant or thrombolytic therapy (p. 206). Unexpected abnormalities of perfusion found on scanning in one-third of a group of 50 patients with bronchial carcinoma (p. 209).

Intractable Pain: Percutaneous electrical cordotomy proved simple and efficacious in relieving pain in majority of a series of cases, particularly in patients with terminal disease (p. 210).

Atrial Fibrillation: Propranolol slowed ventricular rate in four cases of chronic valvar disease not amenable to digitalis, but it also produced heart failure (p. 213).

Vitamin B₁₂ and Smoking: Further evidence pointing to disturbance of B₁₂ metabolism by smoking (p. 215).

Drugs and the Thyroid: Studies of depressant and antidepressant drugs in hyperthyroid mice suggest that safety margin of phenothiazines may be reduced in thyrotoxicosis (p. 217).

Peritonitis: Experimental study of continuous peritoneal lavage (p. 219).

Liver Transplantation: Warming up of porcine hepatic transplant during operation can result in ischaemic damage which is preventable by use of an insulator (p. 220).

Case Reports: Lignocaine in atrial flutter (p. 223); paraquat and ocular damage (p. 224).

Malabsorption: Clinical syndromes and their treatment (p. 225).

"Medicine Today": Neonatal respiratory disorders (p. 228).

Tranquillizers: Drugs in current use (p. 230).

Abortion: Views of a senior medical social worker (p. 235); conviction quashed (p. 250); letters on ethical aspects at p. 242.

Personal View: Dr. David Kyle (p. 238).

Compulsive Gambler: Letters (p. 239).

A.R.M. Eastbourne: Programme (*Supplement*, p. 113).

Junior Members: Forum meeting (*Supplement*, p. 116).

G.M.S. Committee: New district hospitals, G.P.s, and community services (*Supplement*, p. 120).

Oral Contraceptives and Thromboembolism

The two reports published on pages 193 and 199 give the most recent information on the association between oral contraceptives and thromboembolic disease. Almost exactly a year ago the *B.M.J.* published a report to the Medical Research Council which gave the preliminary results of three investigations into this association.¹ One study in general practice showed that the use of oral contraceptives increased the risk of thrombosis three times. The second showed that 38% of women admitted to hospital with venous thrombosis had been taking oral contraceptives, while only 8% of control women admitted to the same hospital for reasons other than thrombosis were taking them. The third investigation, carried out by the Committee on Safety of Drugs, suggested that there was a relationship between the use of oral contraceptives and death from pulmonary embolism. It was estimated that fatal pulmonary embolism was caused by oral contraceptives in three out of every 100,000 users per year.

The present reports are the completed work on the second and third investigations. They confirm the association between the use of oral contraceptives and deep-vein thrombosis and pulmonary embolism. The figures in the larger series are more impressive than in the preliminary report. M. P. Vessey and R. Doll found that 45% (26 out of 58) of patients admitted to hospital with deep-vein thrombosis or pulmonary embolism had recently been taking oral contraceptives, while only 9% of controls who were admitted for reasons other than thromboembolism were taking the drugs—a figure very close to the national average for the proportion of the female population at risk of pregnancy who take them. Doll and Vessey took great care to see that their controls and the patients admitted with thrombosis were comparable, and there seems little doubt that their conclusion that oral contraceptives are a cause of non-fatal deep-vein thrombosis and pulmonary embolism is correct. It is also probable that these pills may cause cerebral thrombosis. On the other hand, an association between oral contraceptives and other thrombosis on the arterial side, notably coronary thrombosis, remains unproved. W. H. Inman and Vessey, expanding the preliminary findings of the Committee on Safety of Drugs, were unable to show a definite association between coronary thrombosis and oral contraceptives, though such a possibility cannot be ruled out on the present evidence.

When deaths rather than illness from venous thrombosis were considered Inman and Vessey found a strong relation between the use of oral contraceptives and death from pulmonary embolism and cerebral thrombosis, especially in older women.

Vessey and Doll investigated the different preparations used by the patients in their series, but were unable to show any marked difference between various contraceptives. The oral contraceptives incriminated in

venous thrombosis contain a number of very different progestogens, while only two very similar oestrogens are used in drugs marketed in Britain. There is other evidence that oestrogens may have an effect on blood clotting.^{2,3} These findings suggest that it is the oestrogen rather than the progestogen which is responsible for the thrombosis, and if this is true there are three practical conclusions. Firstly, the sequential types of oral contraceptive may be more dangerous, since they contain more oestrogen than the combined pills. Secondly, the continuous-low-dose-progestogen technique (not considered in the trials reported), using such compounds as chlormadinone acetate,⁴ requires no use of oestrogen and may afford a means of avoiding thromboembolic effects. This technique is not free of disadvantages but it seems to be well worth careful evaluation with respect to the danger of thrombosis. Thirdly, the administration of oestrogen for any purpose—not only contraception—should be regarded as carrying a definite risk if the oestrogen is given for a long time or in high dosage. The use of oestrogens to reduce blood cholesterol in patients with coronary insufficiency or to suppress lactation² are particular cases in point.

The occurrence of thromboembolic disease in one out of every 2,000 women on the pill each year is disquieting.

Should a doctor give a healthy young woman a prescription for an oral contraceptive if it may lead to her death? The picture must be seen in the perspective of the effect on the whole population. Other forms of contraception—apart from male and female sterilization—have high failure rates. The risk of death in pregnancy, even from thrombosis alone, is greater than that of taking oral contraceptives for the same length of time, though how many pregnancies would result from changing to other forms of contraception than the pill is speculative. So, while there is no cause for panic about the possible consequences of widespread use of the present types of oral contraceptives, neither is there room for complacency. No chair in clinical reproductive physiology exists in Britain, but co-ordinated interdisciplinary research in this field is urgently needed. The goal must be effective contraception, free of all risk, and psychologically fully acceptable. Women would give high priority to such research.

¹ Subcommittee of the Medical Research Council, *Brit. med. J.*, 1967, 2, 355.

² Daniel, D. G., Campbell, H., and Turnbull, A. C., *Lancet*, 1967, 2, 287.

³ Oliver, M. F., *Lancet*, 1967, 2, 510.

⁴ Martinez-Manautou, J., Giner-Velasquez, J., Corts-Gallegos, V., Aznar, R., Rojas, B., Guiterrez-Najar, A., and Rudel, H. W., *Brit. med. J.*, 1967, 2, 730.

Assessing "Clinical Competence"

Tests of clinical competence make up an important part of the final examination in medicine. Traditionally in Britain the clinical examination has comprised one principal case and one or more short cases. But how certain are we that these tests are valid and satisfactory? Analyses of clinical tests have shown many disadvantages. The correlation between the opinions of the two pairs of examiners concerned is often very poor, and patients used in the examination vary tremendously.¹ So in a situation where variation among candidates is the single important factor to be measured the additional variables of an examiner and a patient are introduced. Moreover, the all-embracing term "clinical competence" is made up of many attributes—the ability to elicit a good history from a patient and to carry out a competent examination, to recognize the various physical signs, and to use the clinical features to arrive at a diagnosis, and hence a rational plan of management. In other words, much more is being tested than mere recall of isolated information, which is the main aim of multiple-choice examinations. We are testing a higher level of intellectual process—the ability to synthesize the variety of elements in a clinical situation into an original and meaningful whole.²

What improvements must be made in our tests of clinical competence? Firstly, and most importantly, the different skills and attitudes which go to make up clinical competence must be defined. Only then can we set about the task of devising tests to examine these objectively. The ability to take a case history and perform a physical examination can be analysed by the use of check lists of the various important features. In Newcastle upon Tyne the ability to recognize clinical signs has been used as a separate test which is easily and objectively marked. By the use of a wide range of assessments of clinical competence more reliable and reproducible results can be obtained. Nevertheless, the major

problem of variation between patients is difficult to overcome with our present methods.

In the United States the National Board of Medical Examiners, of Philadelphia, and G. E. Miller and his colleagues at the University of Illinois, in Chicago, have been attempting to rationalize and standardize practical examinations.¹ By the use of cine films, x-radiographs, pictures, and tape recordings they can do away with patient variation; and by making the marking wholly objective they can eliminate examiner variation. Trained examiners or professional actors have been used to play the part of patients to test history-taking ability, but many examiners feel that such devices are far removed from the real clinical situation. These groups have also pioneered the use of simulated patient-management problems, both as an educational device and as a method of examination.³ In this technique a description of an actual clinical situation is presented to the student, who is asked to select from a list the responses he feels to be most appropriate. He does this by erasing an opaque overlay alongside his choice. Under the overlay he finds relevant information, which may be purely descriptive or which may indicate how the position has been altered by his management, then referring him elsewhere in the programme. By analysing the pattern of erasures the examiner can assess the student's response. A further refinement of this technique for both teaching and testing is the use of the computer in this type of situation.⁴ The student types in his request for data and the computer provides the appropriate response. Such dialogues between students and computer may well be found to be increasingly valuable in the future.

¹ Stokes, J. F., *Brit. J. med. Educ.*, 1967, 1, 320.

² *A Taxonomy of Intellectual Processes*, prepared by the Committee on Student Appraisal, University of Illinois, College of Medicine, Chicago, Illinois, 1964.

³ McCarthy, W. H., and Gonnella, J. S., *Brit. J. med. Educ.*, 1967, 1, 348.

⁴ Swets, J. A., and Feurzeig, W., *Science*, 1965, 150, 572.

⁵ Walton, J. H., *Brit. J. med. Educ.*, 1967, 1, 330.