Medical Memoranda

Septicaemia due to Gram-negative Organisms Complicating Vaginal Repair

The problem of the prevention and treatment of urinary infection after vaginal operations has received considerable interest in recent publications (Paterson *et al.*, 1960; Barr and Paterson, 1962; Donald *et al.*, 1962). However, no reference has been made to the potentially fatal condition of septicaemia, due to Gram-negative organisms, which may follow repeated catheterization or continuous drainage of the bladder post-operatively.

CASE REPORT

A housewife aged 63 was admitted to hospital on August 16, 1962, for repair of her stress incontinence. On examination the only other abnormality detected was a hypertension of 200/100 mm. Hg. Pelvic examination disclosed a moderate cystocele with gross stress incontinence. Previous investigation of the urinary tract, including excretion urography and cystoscopy, had revealed no abnormality; in particular, urine specimens at that time, on admission, and on the day of operation were normal on examination and sterile on culture.

A Pacey-type repair operation was performed, and in keeping with the policy of this unit the bladder was not drained post-operatively, to minimize the risk of infection. On the third morning after operation she developed acute urinary retention. A self-retaining catheter was inserted, 700 ml. of urine withdrawn, and a sample sent for examination.

On the seventh post-operative day the patient felt faint on rising and was found to have a tachycardia of 120/min. and a systolic blood-pressure of 60 mm. Hg. Despite the profound fall in blood-pressure she remained alert and was not distressed or in pain. There was striking venous dilatation of the face and upper limbs, which were flushed and warm, yet her temperature was only 97° F. (36.1° C.). Examination of the heart and lungs revealed no abnormality.

A provisional diagnosis of pulmonary embolism or myocardial infarction was made; an electrocardiogram, however, proved normal. In view of the possibility of septicaemia blood culture was set up; a white-cell count and serum transaminase were ordered and further urine was sent for culture. In spite of repeated doses of metaraminol difficulty was experienced in maintaining a systolic blood-pressure of 90 mm. Hg. The white-cell count of 22,800/c.mm. was in keeping with the diagnosis of septicaemia, and full treatment was therefore begun immediately.

Chloramphenicol 1 g. and hydrocortisone 100 mg. were given intravenously and treatment was continued with chloramphenicol 500 mg. and hydrocortisone 100 mg. every six hours. After 24 hours dramatic improvement had taken place and all drugs were then given orally—chloramphenicol in reduced dosage for 10 days, and hydrocortisone being replaced by prednisone in diminishing doses for 18 days. The initial subnormal temperature rose to 101° F. (38.3° C.) for three days and the blood-pressure rose gradually to previous levels. Subsequent recovery was uneventful.

Results of Investigations (seventh post-operative day, during hypotensive episode).—Haemoglobin 11 g./100 ml. White-cell count 22,800/c.mm. (polymorphonuclear leucocytes 89%).

Sensitivity of *E. coli* from Vaginal Swab, Urine, and Blood Culture

Antibiotic	High Vaginal Swab	Urine	Blood Culture
Streptomycin ..	Sensitive	Sensitive	Sensitive
Tetracycline ..	Moderately sensitive	Resistant	Resistant
Erythromycin ..	Resistant	Sensitive	Sensitive
Chloramphenicol	Moderately sensitive	Sensitive	Sensitive
Sulphonamide ..	Resistant	..	Moderately sensitive

Blood urea 87 mg./100 ml. (pre-operative 19 mg./100 ml.). Serum glutamic oxalic transaminase 25 units (normal). Urine, catheter specimen: very numerous pus cells and organisms seen and a predominant growth of a coliform organism obtained. Blood culture: a coliform organism was isolated. These two organisms showed a sensitivity pattern similar to that of a coliform isolated from the high vaginal swab taken the day before operation, and it may be that the three organisms were identical (see Table).

COMMENT

Transient bacteraemia is not uncommon after urethral instrumentation and particularly after the removal of an indwelling catheter (Scott, 1929; Slade, 1958). Occasionally a true septicaemia ensues, the commonest causative organisms being *Proteus vulgaris* and *Escherichia coli*, which are often found in the introitus or within the urethra itself. The clinical picture in this case was classical. The peripheral vasodilatation gives rise to a deceptive appearance of well-being in spite of the extreme gravity of the condition, which can prove fatal in over 60% of cases (Aldridge, 1960). The cause of the hypotension is obscure, but the effect of endotoxins produced by *P. vulgaris* and *E. coli* (Ezzo and Knight, 1957) or of adrenal damage has been suggested. Talbot (1962), in a series of 20 urological cases, found hypotension most commonly in those cases due to *P. vulgaris* infection and showed chloramphenicol and kanamycin to be the drugs of choice. The diagnosis of Gram-negative septicaemia must be considered in obscure post-operative hypotension. The urgency is great, since death or complete recovery depends on the adequacy of treatment in the first 24 hours. In every suspected case a blood culture should be taken and full dosage of the chosen antibiotic given intravenously without delay.

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Myocardial Infarction after Burns

Venous thrombosis is a complication of burns, trauma, and debility in the older age-groups (Sevitt and Gallagher, 1961). In these conditions arterial thrombosis, particularly of the coronary system, though less common, occurs in older patients, especially when associated with shock (Blumgart *et al.*, 1941).

Coronary thrombosis occurring in the young after burns would, however, appear to be a rarity; only one such case has been encountered in recent literature (Folli *et al.*, 1955). In view of this the present case is thought worthy of attention.

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