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Medical Memoranda

Tubo-ovarian Abscess Caused by a Non-capsulated Strain of *Haemophilus influenzae*

British Medical Journal, 1970, 1, 32

The pathogenicity of *Haemophilus influenzae* strains is closely related to the possession of capsular polysaccharide, those conforming to Pittman type b being responsible for the majority of non-respiratory infections in man. Non-capsulated strains, whether of natural occurrence or "rough" variants of capsulated strains, are of low virulence for animals; in man their status as pathogens, apart from their association with chronic bronchitis, is uncertain. Rogers *et al.* (1960) described several instances in which non-capsulated strains of *H. influenzae* were isolated from acute pyogenic lesions in children, but reports of this type of infection in adults are uncommon; we know of none in which this organism has been associated with sepsis of the uterine adnexae, and we therefore feel that the following case history is worth reporting.

CASE HISTORY

A 48-year-old woman was admitted to hospital as an emergency case late on 22 February 1969. She gave a history of pain in the right iliac fossa which had come on six days previously, shortly after the onset of a menstrual period. It was worse on standing and radiated down her right leg. She had experienced attacks of shivering during the preceding week and had felt feverish on the day of admission. She also complained of diurnal frequency and urgency of micturition of three weeks' duration, but there was no dysuria. A yellowish-white vaginal discharge had been present for three weeks, but this had cleared by the time she was admitted. Her periods were regular but fairly heavy, and because of this she had undergone uterine curettage and cervical cauterization four years previously.

She had been married for 23 years, and though contraceptives had not been used the marriage was childless. At the age of 10 she had appendicitis and peritonitis. Antibiotics had not been given before admission.

On examination she looked unwell, with a temperature of 38.0°C. (100.4°F.) and a pulse rate of 120. Her blood pressure was normal. A soft mass was felt in the right iliac fossa and there was pronounced tenderness and muscular guarding. At laparotomy, performed on the evening of admission, the mass was found to be a right-sided tubo-ovarian abscess with recent adhesions to the parietal peritoneum, omentum, and loops of small intestine. The uterus, left tube, and ovary appeared normal. Mobilization of the abscess was achieved with difficulty, but it was eventually removed completely.

She was treated with ampicillin—for 24 hours after the operation she received 1.5 g. by intravenous drip and thereafter 250 mg. six-hourly by mouth for eight days. Her temperature had settled

by the second postoperative day and she made an uninterrupted recovery. When seen six weeks later she appeared well and had suffered neither pain nor vaginal discharge. During this time she had had a normal menstrual period.

Bacteriological Findings.—Small Gram-negative rods and scanty Gram-positive cocci were seen in a Gram-stained smear of pus from the abscess. Aerobic blood and chocolate agar cultures and an anaerobic blood agar culture yielded heavy growths of *H. influenzae* of characteristic appearance. All cultures seemed to be pure. A culture of the organism was sent to Dr. D. C. Turk, who identified it as a non-capsulated, and therefore non-typable, strain of *H. influenzae* with no unusual features (not tested for X factor dependence). There seems little doubt that this organism was the principal cause of this patient's abscess.

COMMENT

In their monograph of *H. influenzae* Turk and May (1967) stated that strains which cause pyogenic infections in previously healthy human tissues are virtually always capsulated. The corollary to this, that non-capsulated strains are unlikely to cause infections unless there is pre-existing tissue damage, is borne out by the association of non-capsulated strains with chronic bronchitis. Moreover, Rogers *et al.* (1960) described eight instances where non-capsulated strains had caused urinary infections in children, all of whom were found to have underlying abnormalities in the form of calculi, congenital defects, or traumatic lesions. In our patient the history of peritonitis during childhood and the fact that she was childless suggest that there may have been some tubal scarring which enabled the organism to establish infection.

There is no means of knowing whether the infection was haematogenous or whether it arose by direct spread from the vagina.

We are indebted to Dr. D. C. Turk, of the department of microbiology, University of Newcastle upon Tyne, for examining the strain of *H. influenzae* and to Mr. J. A. Chalmers, consultant obstetrician and gynaecologist, Worcester Royal Infirmary, for permission to publish the case history of this patient, who was admitted under his care.

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