

# PENICILLIN RESISTANT STAPHYLOCOCCAL SEPTICAEMIA SUCCESSFULLY TREATED WITH VANCOMYCIN AND FUCIDIN

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## INTRODUCTION

Penicillin resistant staphylococcal septicaemia is a major problem in hospital practice. We describe below such a patient who eventually responded to a combination of Vancomycin and Fucidin.

## CASE REPORT

S.K., a 20-year old Sikh girl, was admitted to the Medical Unit, Thomson Road General Hospital, on 4.3.71 with history of fever for 1½ months, cough and right hypochondrial pain for similar period. She had an illegal abortion on 24.1.71. On 24.2.71 she was admitted to Kandang Kerbau Maternity Hospital for dilatation and curettage and was discharged after two days.

Physical examination at time of admission revealed a temperature of 104°F, slight pallor and crepitations in the lower zone of right lung. The liver was enlarged 2 cm. below the right costal margin but she was not jaundiced. Rest of the physical examination was normal. A repeat gynaecological examination was normal.

## INITIAL INVESTIGATIONS

Hb. 7.1 gm. TW 8800 with 95% polymorphs.  
BSR 92. Urine—normal. C.S.F. was normal.  
Sputum culture negative. Vaginal swab culture negative.

Direct blood smear—staphylococcal aureus.  
Blood culture—staphylococcal aureus resistant to penicillin but sensitive to all the other antibiotics.

X-Ray—Pneumonitis right base.

In view of the above findings, a diagnosis of staphylococcal (penicillin resistant) septicaemia following abortion was made. Although the

organism was sensitive to all the anti-biotics tested in vitro, except penicillin, it was not sensitive in vivo as shown by the clinical progress (*see* Fig. 1). Meanwhile, patient's general condition rapidly deteriorated and fresh lung lesions appeared in X-rays (Figs. 2a and 2b). On 24.4.71 it was decided that she be subjected to a laparotomy in case there was loculated pus. At laparotomy, no abnormality was discovered. Her temperature continued to be hectic and she became extremely ill. It was then decided to use Vancomycin in the dose of 500 mgm. twice a day by slow intravenous infusion (Davies *et al*, 1958). Within a few days her temperature pattern changed and her general condition improved. Fearing that the organism would eventually become resistant to Vancomycin, another drug Fucidin (Crosbie *et al*, 1963) 500 mgm., 6-hourly, was added. Within a week of this combined therapy, her temperature subsided and repeated blood cultures were negative. Unfortunately her urine became infected and culture grew candida stellatoidea. As her vaginal swab was sterile, we felt this is a direct invasion of the bladder by the fungus. This is known to occur in patients who are debilitated or had received a number of anti-biotics (Davies *et al* Reeves, 1971). Direct instillation of the bladder with Amphotericin B according to the method of Goldman (1960) was instituted. Within two weeks the urine was sterile and normal on microscopic examination. Her general condition continued to improve, appetite returned and she put on weight. Her chest X-ray showed considerable clearing (Fig. 2c) and she was eventually discharged after a stay of 106 days in the hospital.

## DISCUSSION

The treatment of fulminating staphylococcal infection is still a great problem in spite of the rapid development of chemotherapy. This is mainly due to three factors:

1. The ability of the staphylococcus to become chemoresistant during treatment.
2. The rapid course of staphylococcal infection that makes patients extremely ill before a diagnosis can be established and therefore having only a short time left for chemotherapy.

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**BLOOD CULTURES**  
(PENICILLIN RESISTANT STAPH. AUREUS)

**THERAPY WITH ANTIBIOTICS**

**TEMPERATURE (Fahrenheit)**

**DAY OF ILLNESS**

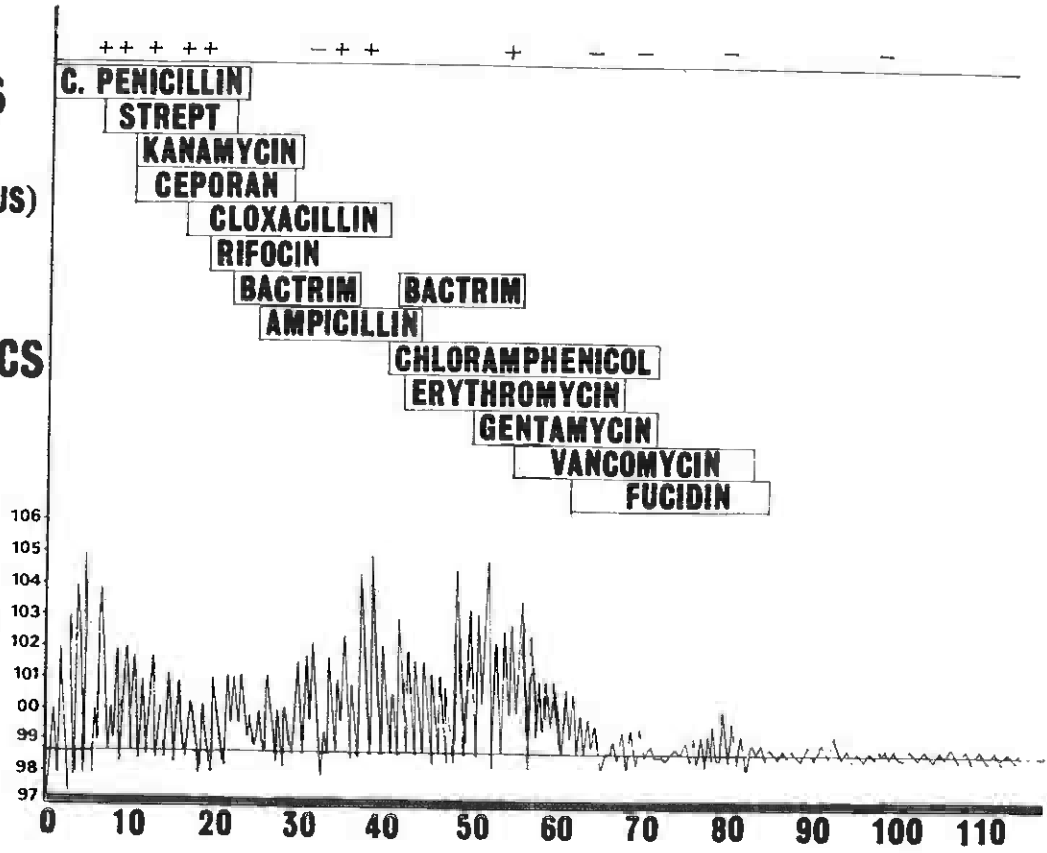


Fig. 1.

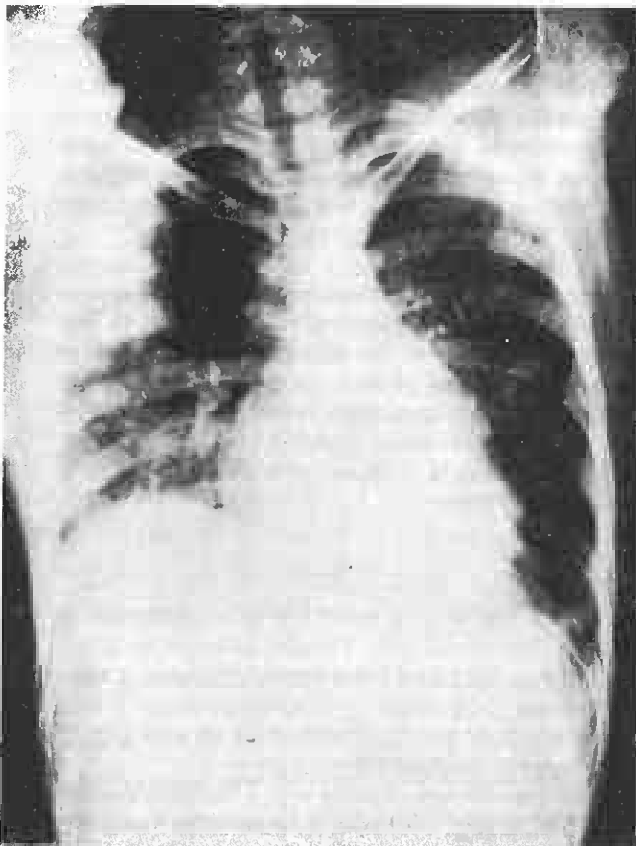


Fig. 2a.

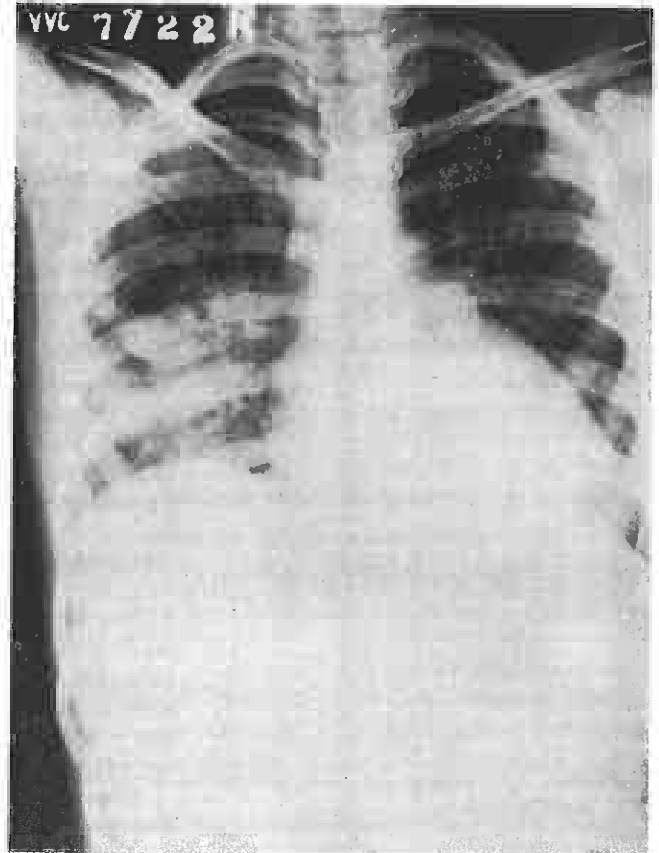


Fig. 2b.

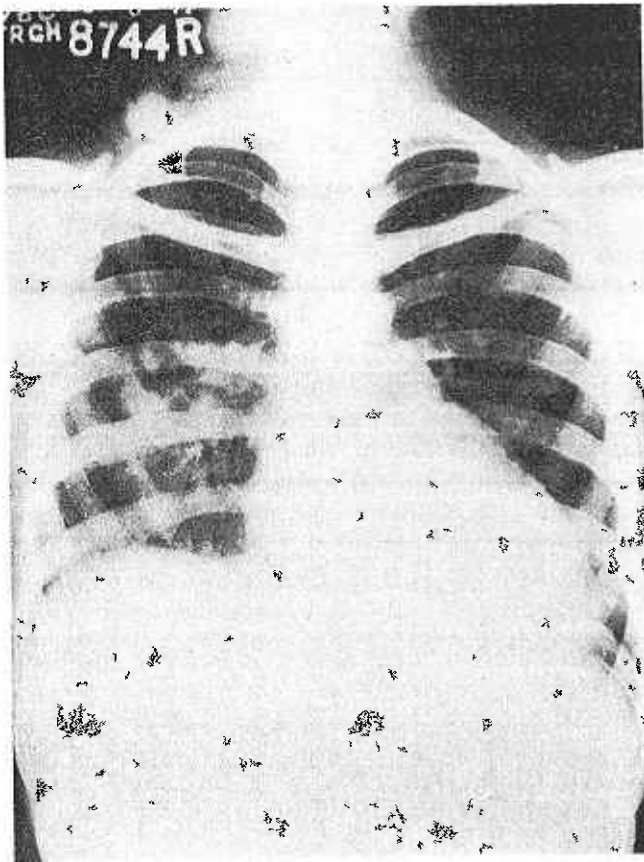


Fig. 2c.

3. Extensive focal lesions with pus and necrotic tissue that delay and restrict the activity of the anti-biotics and favour the development of bacterial resistance.

Furthermore, organisms that are sensitive to anti-biotics in vitro do not necessarily behave similarly in vivo as demonstrated by our case. Monilial cystitis is a common complication in such patients and the treatment of choice appears to

be local instillation of Amphotericin B into the bladder since systemic treatment may cause further deterioration of patient's already poor condition. Recent reports (Davies *et* Reeves, 1971) have shown 5-fluoro-cytosine to be a safer drug. It is suggested that in cases of fulminating penicillin resistant staphylococcal septicaemia, Vancomycin and/or Fucidin should be considered as one of the armamentarium of therapy.

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