Letters to the Editor

Bacillus cereus infections

The importance of *Bacillus* organisms, particularly *B. cereus*, in local infections has been largely overlooked because they are commonly encountered as contaminants in specimens or cultures. Turnbull *et al.* (*J Clin Pathol* 1979;**32**:289-93) reported severe infections with *B. cereus* and prompted me to review the recent isolates in this laboratory.

In the nine months, November 1978 to July 1979, there have been nine significant isolates of *Bacillus*. Details of these infections are given in the Table. Infected traumatic or surgical wounds of the limbs account for nearly half these cases, but clinical severity is very variable. It is my experience that moderate or heavy growths of *Bacillus* from wounds are usually of clinical significance.

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In view of recent publications on *B. cereus* and its pathogenicity in serious wound infections due to necrotising toxins,[1-4] I should like to report the following four cases which we have seen during the past four months. (Table opposite)

In three of these four cases the strain of *B. cereus* isolated was a strong producer of toxin, and certainly in case 3 was the only pathogen isolated, and it is likely that this organism played a significant role in these infections.

In case 4 the wound swab was taken five days after starting ampicillin, to which *B. cereus* was resistant, and the pyrexia settled after a further two days of treatment. Since this strain was shown to be a weak product of toxin it is unlikely to have played a major pathogenic role in this patient.

It is most important to consider *B. cereus* as a potential pathogen in wound sepsis, and toxin testing may be useful to assess its significance in individual cases.

I am grateful to Dr Peter Turnbull, of the Food Hygiene Laboratory, Central Public Health Laboratory, Colindale, for serotyping and toxin testing these strains.

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References

[1] Turnbull PCB, Kramer JM, Jorgensen K, Gilbert RJ, Melling J. Properties and production characteristics of vomiting, diarrheal, and necrotizing toxins of *Bacillus cereus*. *Am J Clin Nutr* 1979; **32**:219-28.
[2] Turnbull PCB, Jorgensen K, Kramer JM, Gilbert RJ, Parry JM. Severe clinical conditions associated with *Bacillus cereus* and the apparent involvement of exotoxins. *J Clin Pathol* 1979; **32**:289-93.
[3] Tuazon CU, Murray HW, Levy C, Solny MN, Curtin JA, Sheagren JN. Serious infections from *Bacillus* sp. *JAMA* 1979; **241**:1137-40.
[4] Fitzpatrick DJ, Turnbull PCB, Keane CT, English LF. Two gas-gangrene-like infections due to *Bacillus cereus*. *Br J Surg* 1979;**66**:577-79.

The letters from Drs Barnham and White are important in supporting and emphasising the existence of a problem of *Bacillus* organisms in local infections. Accordingly, we wish to draw to the attention of readers our interest in the immunological responses to such infections, particularly those involving *B. cereus* and *B. anthracis*, which relate to the toxic products of these organisms.

In addition to the non-anthrax Bacillus cultures, which should continue to be sent to the Food Hygiene Laboratory, we should like to obtain serum from patients in whom there is good evidence of infection with *Bacillus* organisms as primary pathogens. Such serum samples should be sent to the Vaccine Research Laboratory, CAMR, Porton, Wilts.

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Patient	*Age*	*Sex*	*Disease*	*Site swabbed*	B. cereus *or sp.*	*Specimens positive*	*Bacterial growth*	*Other organisms isolated*	*Clinical severity*
1	28	M	Cholecystectomy wound infection. Generalised toxic urticated erythema	Wound	cereus	1	Moderate	*Staph. aureus* on later swab	Severe
2	24	M	Traumatic amputation of foot	Wound	cereus	2	Heavy	*E. coli* on one occasion	Mild
3	8 days	F	Jaundice, Sticky eye	Eye	cereus	1	Moderate	—	Mild
4	29	F	Pyrexia after Caesarian section	Vagina	cereus	1	Moderate	—	Mild
5	52	M	Amputated toe, wound infection	Wound	sp.	1	Moderate	—	Moderate
6	21	F	Thigh abscess, cellulitis, septic arthritis of knee 2 weeks after plank fell on thigh	Thigh abscess; knee pus	sp.	2	Moderate	—	Severe
7	56	F	Infected bone graft to fractured tibia. Skin necrosis	Wound	cereus	1	Heavy	—	Moderate
8	64	M	Infected transvesical prostatectomy wound	Wound	cereus	1	Moderate	—	Moderate
9	74	M	Infected suprapubic prostatectomy drain wound	Wound	sp.	1	Heavy	—	Moderate

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