Technical methods

A contact slide method for the isolation of staphylococci

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The gauze-reinforced agar slab method introduced by Foster (1960) to assess environmental contamination was subjected to trial in the laboratory. In principle this method was sound but in our experience the gauze-reinforced agar slabs were difficult to prepare and far from easy to manipulate. A modification of Foster's method involving the use of agar-layered slides has been developed and employed successfully for more than six months in an investigation in which information was required about staphylococcal contamination of floors and other surfaces in a surgical ward (McNeill, Porter, and Green).

MATERIALS AND METHOD

MEDIUM Mannitol salt agar was employed and colonies of staphylococci could be recognized on this selective medium by their yellowish pigmentation after incubation at 37°C. for 36 to 48 hours.

PREPARATION OF CONTACT SLIDES Petri dishes each containing a glass slide 3 in. $\times$ 1½ in. are sterilized in the hot air oven (160°C.) for one hour. Strips of 1 in. Sellotape, 4½ in. long, are cut and one is placed, adhesive side upwards, over the bottom of each petri dish, the slide being removed with sterile forceps to permit this. The slide is then replaced lengthwise along the strip of Sellotape to which it adheres. The portions of Sellotape which project from each end of the slide are doubled on themselves to

form handles by means of which the slide can be removed from the petri dish when required. Then 4.5 to 5.0 ml. of the melted agar medium is run onto the surface of the slide by means of a pipette. This amount of medium is found to cover the surface of the slide without spilling over its edges. It is essential to use petri dishes with flat bottoms.

USE OF CONTACT SLIDES A slide is removed from its petri dish by means of the Sellotape handles and turned through 180° so that the agar can be applied to the floor or other surface to be tested. Slight pressure is exerted on the slide to ensure that the agar makes contact along its entire length with the test surface. The slide, agar side uppermost, is returned to its petri dish and incubated in a moist atmosphere at 37°C. for 36 to 48 hours. Colonies of staphylococci are picked off into nutrient broth, incubated at 37°C. for 20 hours, and tested for coagulase production by the tube method. Those staphylococci found to be coagulase positive are then subjected to antibiotic and phage typing.

By the use of mannitol salt agar slides environmental contamination of wards and ancillary rooms by staphylococci has been demonstrated. It has been found possible by this means to isolate staphylococci from blankets and bedding, floors and windows sills, and from bed tables and lockers. The advantages of mannitol salt agar contact slides lie in the fact that they are easily and quickly prepared and economical in the amount of medium required; they can be handled without difficulty and they are efficient for the isolation of staphylococci.

No doubt similar slides layered with other suitable selective media could be used in investigations involving the isolation of other organisms causing environmental contamination.

REFERENCES

- Foster, W. D. (1960). *Lancet*, **1**, 670.
McNeill, I. F., Porter, I. A., and Green, C. A. To be published.

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