between about 99 and 99·9% kill on vacuum drying. Differential colony counts and MIC determinations with varying sized inocula indicated that a high proportion of bacteria surviving vacuum drying were polymyxin resistant. Comparison was made with cultures freeze dried in Stamp's (1947) medium. Freeze drying reduced the count only to about 70% of the original and sensitivity was unaltered.

Vacuum dried whole cells were used as inocula for 8 litre nutrient broth cultures. Whole cell and cell wall preparations were analysed for readily extractable lipid (REL), calcium and magnesium (Brown & Watkins, 1970). The greatest difference was in wall phospholipid and wall Mg which were several-fold less in preparations from vacuum dried inocula.

These results support the hypothesis that drying had mutagenic effects.

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Effect of slime on the sensitivity of *Pseudomonas aeruginosa* to EDTA and polymyxin

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The slime of *Pseudomonas aeruginosa* has been implicated in its resistance to chemotherapy (Brown & Richards, 1964). We have been unable to find published work investigating the rôle of slime in the resistance of this organism. We report *in vitro* studies with ethylene-diaminetetra-acetic acid (EDTA) and polymyxin B sulphate using slime producing gluconate cultures and non-slime producing glucose cultures of *P. aeruginosa* in chemically defined media (Brown, Scott Foster & Clamp, 1969). Sensitivity was measured using methods described by Brown & Melling (1969).

Inocula from 6 day, slimy, stationary phase cultures were incubated in fresh gluconate media and challenged with EDTA and polymyxin immediately they entered the exponential phase. Comparison was made both with 6 day non slimy glucose cultures treated in this way, and also with cultures inoculated with cells in the exponential phase in both media.

Early exponential cultures derived from 6 day stationary phase inocula were more sensitive to both agents than were cultures derived from log phase inocula. Slime slightly enhanced resistance to both agents, especially to polymyxin.

Stationary phase glucose and gluconate cultures incubated for 2 and 7 days were tested for lysis by EDTA and polymyxin. Slime had little effect on polymyxin sensitivity; 2 day cultures were the most sensitive. Slime had a significant effect in reducing EDTA sensitivity.

In general, these *in vitro* results suggest that slime has only a minor rôle in sensitivity to the agents tested. A significant rôle *in vivo* is not excluded.

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