

DISCUSSION

FRITZ (Bonn): Why does Dr. Linton advise giving colomycin before dialysis only to avoid toxic levels? It would be the same to give it after dialysis in half the dosage. Besides, you need it as an antibiotic between dialyses.

Then, I am not sure it is right to use colomycin in chronic renal failure. It is a very dangerous substance. Would it not be much better to give carbenicillin? Initially you need much higher doses, but it is no problem to give higher doses, and it is a much less toxic substance.

LINTON (Glasgow): I was not intending to convey that serum levels were not going to be required in managing antibiotic therapy. The fact that it takes two or three days to get a proper estimation of serum level back from the laboratory means that you have to prescribe therapy for a short spell blind; this is what we were trying to give some guidance on.

On Dr. Fritz's two points: perhaps I did not explain the colomycin slide very clearly. There is very little dialysis effect with colomycin and consequently the dosage of 150 mg, which gives you therapeutic levels for 90 per cent of *Pseudomonas* for 24 hours, can be given daily without regard to the time of occurrence of dialysis.

On the second point, certainly colomycin can, and should often, be used in the treatment of *Pseudomonas* infections. At the moment we have had three *Pseudomonas* infections which were not sensitive even to 100 microgrammes per mm of carbenicillin, and colomycin was the only drug to which they were sensitive. It is, of course, a dangerous drug, but on occasions with *Pseudomonas* infections, certainly, in Scotland, we have had to use it.

BUCHT (Stockholm): When using ototoxic antibiotics such as kanamycin, streptomycin and gentamycin, you have to keep in mind that if you get a peak level in the serum, you get high endolymphatic concentrations; you can easily dialyse out the ototoxic drugs from the blood by means of ordinary haemodialysis, but you cannot get it out from the endolymph. It may stay there for weeks, and it may give severe, irreversible ototoxic lesion, if you get just one high peak of, for instance, kanamycin.

Has anyone in the audience any experience with gentamycin? We have used it in Stockholm in some cases with severe septicaemia, with very good results.

KOPP (Frankfurt): A question for Dr. Williams: have you any idea how such antibiotics behave during peritoneal dialysis?

WILLIAMS (Birmingham): The transfer of antibiotic across a membrane from the non-protein-bound fraction is controlled by a large number of variables; one of these is the membrane concerned, and the peritoneum might behave differently from cellophane. We have done no studies on peritoneal dialysis.

MAHER (Washington): Inability to remove streptomycin to any great extent, Dr. Williams, is not in accord with the work of David Edwards some nine years ago, where he had good clinical results. These were in patients that had high blood levels. Do you know if the degree of protein-binding remains constant? Is it the same at therapeutic levels as at toxic levels?

Question 2, for either speaker: Since this is a microbiologic test, have you measured the recovery in blood pre-dialysis and blood post-dialysis? In other words, is there something in uraemic serum that interferes with your test or is there anything bacteriocidal in the uraemic serum other than the antibiotic that is removed by dialysis?

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WILLIAMS (Birmingham): It is true that other workers have previously demonstrated that streptomycin can be dialysed out, but the half-lives in our studies do not confirm this. This is supported by clinical experience in attempting to dialyse out streptomycin, with our equipment, in patients inadvertently overdosed.

LINTON (Glasgow): I do not think there is any evidence that antibiotic assays are affected by uraemia.

MAHER (Washington): Has not been done?

LINTON (Glasgow): No evidence, either way.