DISCUSSION

The Chairman (Parsons, Leeds): These two important papers on shunt clotting are now open for discussion and questioning.

Bucht (Stockholm): We have used the same preparation as Dr. Bennhold and we are quite satisfied with the results. One has to remember, however, that protease is a very powerful preparation, so you have to be very careful in using it and, if there are any signs of leakage, it should not be used. We have two cases where we have had oedema in the arm after the injection of the protease and we have one case where we had a necrosis of the skin. This lesion is now completely healed.

Unidentified Member: Dr. Czaczkes, does the low molecular weight Dextran have primarily a dilutionary effect and, if this is the case, would not regular Dextran do a better job, since regular Dextran is metabolised more slowly and would remain within the circulatory system for a longer period of time, therefore requiring less infusions?

Czaczkes (Jerusalem): Thank you for this suggestion, but I have to confess that I really do not know. Before we worked with Dextran we tried plasma expanders and we could not find any significant results. Dextran influences blood flow and especially prevents sludging of erythrocytes, so it could be one of the results: I really do not know from my own experience.

Bennhold (Berlin): As you have seen, we used very small doses of protease and we did not see any severe side effects. It has seemed that doses up to 100 mg are quite safe and without great complications. Certainly, one must be sure that the protease is given strictly intravenously and that there is no leakage in the vein or in the shunt, and we think that the swelling of the forearm in two patients was due to a hole in the shunt connection.

Simões (Lisbon): Dr. Aviram, do you not think that the use of a non-diffusible molecule, such as Dextran, could be dangerous to patients with hypertension or with oedema?

Aviram (Jerusalem): The amount we are giving is relatively small. I can only tell you that some of our patients have hypertension troubles, as is usual, but we have never seen any rise in blood pressure after the infusion and we have never seen these patients behave in any way that was different from that of other patients who did not have it.

Ringoir (Ghent): During two years, we filled our coils with a mixture of packed cells and Rheomacrodex. We have not been very impressed by the influence of Rheomacrodex on clotting. The mean functioning time in those two years of our arterio-venous shunts was only two months, though several of them were stopped for transplantation. Now, for the past six months, we have used no Rheomacrodex for filling our coils. We have not yet calculated the mean time, but certainly clotting is no more frequent than in those two years. On the question of the chronic effect of Rheomacrodex on these patients, we examined about twenty kidneys after bilateral nephrectomy: we never found deposits or anything like that and we saw no ill effects on hypertension or oedema.

Verberckmoes (Louvain): May I make a suggestion concerning prevention of clotting in external shunts? It would be worth trying to make the A.V. fistula in patients who should afterwards have the external shunt, using the dilated vein of the fistula for the venous branch of the external shunt. We have one such patient and for a period of more than four months
up to now, we have had just one short period of thrombosis, without other complications.

DRUKKER (Amsterdam): Dr. Czaczkés, a certain percentage of patients on chronic dialysis have still a very useful residual kidney function left. Are you not afraid that when you are giving this LMW Dextran that this will be lost? There are now so many cases described in literature of acute renal failure after Rheomacrodex.

CZACZKES (Jerusalem): That is a very interesting question. The fact is that the renal function of the patients we have on dialysis is really practically zero. Our average urine secretion with these patients and with most of our patients is no more than a couple of millilitres per day, so I have to confess that in these cases I am not really concerned about their renal function.