Handle with Care:
Hepatitis B Antigen Carriers in Peritoneal Dialysis Units

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Hepatitis B has been recognized in the early days of operation hemodialysis units as a major risk to patients as well as staff. It was necessary in 1970 to appoint a committee in England to study this risk. This committee known as the Rosenheim Committee wrote down its findings and recommendations [1]. Since the implementation of the recommendations of the Rosenheim Report, hepatitis B surface antigen carrying patients ceased to be a major threat in well-run hemodialysis units [2]. In another part of this journal, a paper (Peritoneal Dialysis Fluid as a Source of Hepatitis Antigen by W. Goodman, N. Gallagher, D.J. Sherrad) presents an outbreak of hepatitis B in a peritoneal dialysis unit. The risk of such outbreaks has been recognized in most units from the inception of peritoneal dialysis, and most units have stringent criteria to prevent hepatitis B [3]. These precautions have been reviewed recently [4]. Admittedly, the process of peritoneal dialysis produces large volumes of fluid which are contaminated with potential infectious material, though, probably the infectivity of peritoneal dialysis fluid is several fold lower than that of blood. The presence of hepatitis B surface antigen per se is only an indication of infectivity since infection depends on the presence of complete virus particles, the so-called Dane particles. Disposal of large volumes of fluid may be a nuisance in units. There is no public health reason why such fluid cannot be disposed in the community sewage system since such material routinely gets into the system from the numerous hepatitis B carriers living in any community. Therefore, the management of such fluid is only problematic within the unit. Proper disposal and disinfection facilities can solve this problem. Furthermore, renal patients who are known HbsAg carriers should be dialyzed in separate rooms. This precondition makes it essential to know the hepatitis B status of every patient entering the dialysis program. In our unit in fact we screen every patient who approaches end-stage renal disease at regular intervals in preparation of them entering a dialysis or transplantation program. No regular dialysis can be performed in our unit without knowing the patient’s hepatitis B status. If emergency dialysis has to be performed, the patient as well as the machine is isolated until the hepatitis B status of the patient becomes known, usually on the next day. Using these and the quoted precautions, we have dialyzed several hepatitis B positive patients in our peritoneal dialysis unit without any evidence of transmission to other patients or staff. One has to admit, though, that hepatitis B surface antigen positive patients represent a certain risk in unit dialysis. It is, therefore, prudent that such patients, if possible, should be transferred to home dialysis, preferably CAPD, as soon as possible. While this way one transfers the risk to the environment and family members, the family members have been at risk already by other
means. It is well established that close contact in the family environment facilitates transmission of this disease.

There is no convincing evidence in the literature that hepatitis B surface antigen carriers do worse on hemodialysis or peritoneal dialysis than their HbsAg-negative counterparts. Therefore, the fact that they are hepatitis B antigen carriers cannot be a cause for their rejection from either program. All large units should be well equipped to handle such patients. Isolation practices and hygienic management should be reviewed periodically so hepatitis B surface antigen positive patients can be managed in units without any danger. All patients entering life support programs for end-stage renal failure should be screened before entering the program and thereafter at various intervals. If the unit does not have the facilities or financial means to provide adequate precautions for the management of a hepatitis B positive patient, one should feel obliged to refer such patients to another unit which can cope with the problem.

The recent publication of results on hepatitis B vaccine [5,6] looks very promising. When this vaccine becomes available, it will solve this problem since all patients and staff entering a dialysis program could be prophylactically vaccinated and thereby eliminating this nagging problem.

References
