How to explain the low penetration of peritoneal dialysis in Brazil

Authors
Hugo Abensur[1]

[1] School of Medicine, University of São Paulo.

The prevalence of patients initiating dialysis in Brazil increased in recent years - having doubled in the last decade, and it has become a major public health problem.[1] Peritoneal dialysis (PD) is an important form of treatment for patients with late stage chronic kidney failure requiring renal replacement therapy; however, the percentage of patients treated with PD is still low in Europe, ranging from 4% in Austria, Norway and parts of Spain, all the way to 11% in Denmark and Romania, but higher in the United Kingdom.[1,2] In Brazil, according to the Dialysis Census of the Brazilian Society of Nephrology - 2013, the number of patients on peritoneal dialysis is estimated at only 9.2%.[1] Therefore, how can we explain this low penetration of PD in Brazil, considering that the clinical results obtained from PD in terms of patient survival are even better than those obtained from hemodialysis (HD) in the early years of the program?[2,3]

One aspect that may partially explain the underutilization of PD in Brazil is the low profit margin for dialysis units with this mode of renal replacement therapy when compared to that obtained from HD. This phenomenon is also observed in other countries of the world.[4,5] Moreover, there is no established fee to collect from the National Healthcare System - the main funding agency of dialysis in Brazil - for the costs associated with peritonitis episodes - which is an important PD complication, though less frequent, and still an important technique for reducing the technical survival of the PD method.

Besides the economic aspect, we can add the fact that Brazilian nephrologists are not adequately trained to conduct a peritoneal dialysis program. One of the important problems associated with the success of a peritoneal dialysis program is the peritoneal dialysis catheter implantation, which must be done by an experienced professional. The results from a PD catheter implanted by nephrologists are similar or even better than those obtained from surgeons.[6,7] There is also evidence that the presence of a nephrologist experienced in PD catheter implantation increases the number of patients in the PD program.[8,9]

Centers with larger numbers of patients on PD programs have better outcomes in terms of the PD method survival.[10] Many centers use PD as an option for patients with no alternative vascular access for hemodialysis. In such cases, the patients that join the PD program are not the ideal candidates, for they no longer have residual renal function - which has an impact on patient survival on a PD program, and, in general, centers that allocate PD patients in this situation alone are not experienced in PD, because they have only a small number of patients in the PD program.

Due to the smaller number of patients on PD programs in Brazil, medical residents do not receive adequate training to finish their respective residency programs with enough confidence to allocate patients to the PD program.

Differently from patients on hemodialysis, patients on PD programs are seen by medical residents only once a month,

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Correspondence to:
Hugo Abensur.
Dialysis Unit, University Hospital, School of Medicine, University of São Paulo.
Av. Macuco, nº 58, cj. 11. Moema.
São Paulo, SP, Brasil.
CEP: 04523-000.
E-mail: sabensur@usp.br

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so that the resident is less exposed to PD patients and, in addition, since PD is performed in the patient's home, residents do not follow the therapy and are less confident in caring for PD patients.

Besides the training issue, the survival of patients on PD is lower than that observed in hemodialysis, so that, to maintain a fixed number of patients on a PD program, it is necessary to add more than 25% of the number of patients each year - i.e., a center that ends one year with 100 patients on the PD program will have to include 25 more patients to end the next year with 100 patients on PD. Some of the patients leave the program because of peritonitis, loss of residual renal function, inadequate dialysis and kidney transplantation, in addition to death - which is elevated in patients with chronic kidney disease.

The concept of peritoneal dialysis as the initial modality of renal replacement therapy has been hypothesized by some nefrologists.[11] The reasons are various, such as sparring vessels for future vascular access; PD has better results than hemodialysis in the early years of the program, PD causes less changes to the patients' lifestyle and is more protective of the patient's residual renal function.

Therefore, in order to increase the number of patients in dialysis programs in Brazil we need measures that make PD more economically interesting to nephrologists, and we still do not know the impact of new dialysis ordinances on this aspect. We also need better training for the Brazilian nephrology community, including physicians and nurses. In this respect, it is absolutely necessary to create reference centers for PD training, including the implantation of PD catheters. And finally, we need to continuously improve the PD technique, especially concerning the patient survival and peritoneal membrane protection.

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