No need for an “expiry date” in chronic peritoneal dialysis to prevent encapsulating peritoneal sclerosis: comments from around the world

Following the publication of our editorial [1], we encouraged a number of our colleagues to communicate and express their views on the pathogenesis and future prevention of this serious complication of chronic peritoneal dialysis and their views on our position regarding its management.

Their letters give a great insight into current views and future directions in the prevention, detection and management of this serious complication. The two reports from China assert that this is a rare complication among their patients, contrary to reports from Japan. If these Chinese findings are supported by longer and prospective studies, we will have to revise our current views on the pathogenesis of this condition, which will lead to new approaches to its prevention.

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To the Editor: I agree with your opinion regarding “expiry date”, and that further trials should be carried out, especially, in regard to the likely preventive impact of using new, more biocompatible PD solutions. In addition, I would like to point out that the “timing of withdrawal from PD” should be based on whether or not conditions previously demonstrated as risk factors are present, especially in patients on PD for more than 5 years, as incidence of EPS increases after this period of time. This means that “withdrawal” should not be decided merely based on the duration of PD. This was also pointed out in our 2005 EPS management recommendations [1].

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To the Editor: I agree that advocating a specific “expiry date in PD” to prevent EPS is controversial. The Scottish Renal Registry study showed that the risk of EPS increases after 3 years on PD, but decreases after 6 years. However, the mortality rate in EPS and non-EPS cases was not different in this study. Moreover, the finding of a peritonitis rate of
one episode in 17 patient months and a high use of 3.86% dextrose solution indicate that the quality of patient management was sub-optimal, which likely led to a decline in the number of long-term patients.

Analyses of the Japanese EPS Registry have shown that the risk of EPS depends on the duration of PD with an elevated risk after 8 years [1]. It is also hypothesized that the bioincompatible features of conventional PD solutions constitute the underlying cause of EPS. In general, the quality of maintenance of PD patients in Japan is high, which results in many patients staying on the therapy for a long period of time, which consequently increases the risk of EPS.

In Japan, it is recommended to use the algorithm for continuing/terminating PD (in regard to EPS) described in the 2005 PDI Supplement [2], where the consideration of stopping PD should take into account peritoneal transport status, level of inflammation markers and patient’s acceptance of the risk of EPS.

Albeit controversial, one of the strategies to prevent EPS after discontinuation of PD is “peritoneal lavage”, whereby fibrin is removed, after withdrawal from PD. Peritoneal lavage may not be expected to improve the deterioration of the peritoneum, only to prolong the time to thickening of the capsules, leading to the development of EPS. At the same time, peritonitis is a potential complication during peritoneal lavage, thereby increasing the risk of EPS.

In our program, peritoneal lavage is considered under the following conditions: (1) long-term PD duration (more than 8 years), (2) peritoneal permeability increase, (3) increased levels of markers of inflammation, coagulation, fibrinolysis (IL-6, FDPs) and (4) the presence of fibrin in the effluent. Peritoneal membrane permeability (PET) and determination of levels of CA125, FDP and IL-6 in the effluent are performed every 3 months during peritoneal lavage. If these parameters improve, the risk of EPS is considered to decrease, and the PD catheter may be removed.

Future research needs to focus on how to prevent EPS.

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References


To the Editor: Overall, I agree with the conclusion and message of the paper. The recent European data [1] regarding prevalence, impact of PD duration, and that a majority of patients develop EPS post-PD, are very similar to what has been published in Japan over the last decade [2, 3], which indicates an absence of significant racial differences. The stronger focus on EPS post-tx in Europe may simply be explained by a higher transplantation rate in Europe.

It should be noted that the Japanese data do not indicate a risk reduction after 6 years, as suggested by the Scottish data.

The fact that EPS commonly occurs after terminating PD must be taken into account in any discussion of “expiry date”.

That the vast majority of EPS has been described in non-PD patients constitutes a further support for PD “just being a risk factor” for EPS (rather than meaning that “sooner or later all PD patients will develop EPS”). Already in the 2005 PDI Supplement on EPS, Kawaguchi postulated the existence of a black box, containing the (unknown) answer to why only some (and not all) patients exposed to the same risk factors (unknown) develop EPS [4].

It is clear that some patients develop EPS without ever having experienced peritonitis and others only after a relatively short-time on PD (with peritonitis). One should, therefore, consider the possibility of the existence of two separate (but not infrequently co-existing, and possibly synergetic) risk factors for the development of EPS in PD.

It appears appropriate, and so is the opinion of most Japanese PD prescribers, to, in patients who have been on PD for more than 5–8 years, conduct an individual assessment relative to a potential recommendation regarding a (premature) withdrawal from PD, i.e. it is advocated to assess each patient (at risk of developing EPS) individually when considering the provision of a recommendation to withdraw from PD. For example, it might not be appropriate to prematurely terminate PD in an 82-year-old patient having (1) been on PD for 5 years, (2) developed a high transport status and (3) experienced two episodes of Gram negative peritonitis, i.e. having three “risk factors” for EPS. As a minimum, patients need