

VIDEOLAPAROSCOPIC REVISION OF MALFUNCTIONING PERITONEAL CATHETERS IS COST-EFFECTIVE IN CONFRONT TO HAEMODIALYSIS.

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Introduction and Aims:

Videolaparoscopy is the gold standard for the revision of persistent malfunctioning peritoneal catheters. The surgical intervention aims to regain effective catheter function in order to proceed with peritoneal dialysis (PD). The aim of the study is to analyse the cost-effectiveness of videolaparoscopic interventions based on a simulation of reimbursement costs.

Methods:

Reimbursement costs of catheter malfunction management, based on diagnoses related groups and out-patient interventions of the Italian national health system, are calculated for the following two strategies:

Hospitalisation for videolaparoscopic revision and follow up in daily automated home PD

versus

Termination of PD, placement of a temporary central venous catheter, creation of an arterio-venous fistula and in-centre bicarbonate haemodialysis (HD) with highly biocompatible membranes three times a week.

The break-even point of the two strategies, indicating the time after intervention at equivalence of costs, is estimated (figure 1).

Videolaparoscopic interventions for catheter malfunction, performed between 2002 and 2011 at our centre, were analysed and followed up to 2012 with regard to permanence on PD and drop out.

Results:

The break-even point of the two strategies (videolaparoscopic intervention 8597 Euro + PD 383 Euro/week versus vascular access 4551 Euro + HD 496 Euro/week) was determined at 36 weeks after intervention (figure 1).

Forty three videolaparoscopic revisions were performed during the observation period. Twelve patients were still on PD at the end of the observation period (prolongation of catheter function: median 87 weeks), whereas the remaining 31 cases terminated PD in median 43 weeks after revision (figure 2).

The total number of weeks remaining on PD after intervention was 4068 weeks, in confront to 1548 weeks (43 cases x 36 weeks) needed to reach break-even, corresponding to a gain in favour of videolaparoscopy of 2520 weeks.

Theoretical savings amount to 284.760 Euro (2520 weeks x difference of costs between HD and PD 113 Euro/week) during the observation period of ten years. This is equivalent to annual dialysis costs of 14 patients in automated PD, respectively 16 patients in continuous ambulatory PD.

Conclusions:

PD is generating a minor costs in confront to HD from the view point of the national health system. The need of videolaparoscopic revision at catheter malfunction annuls this economic advantage. A cost-effective videolaparoscopic intervention has to result in a prolongation of catheter function and stay on PD of at least 36 weeks. The retrospective analysis of our videolaparoscopy program confirms cost-effectiveness of the procedure.

Figure 1: Break-even point of the two strategies

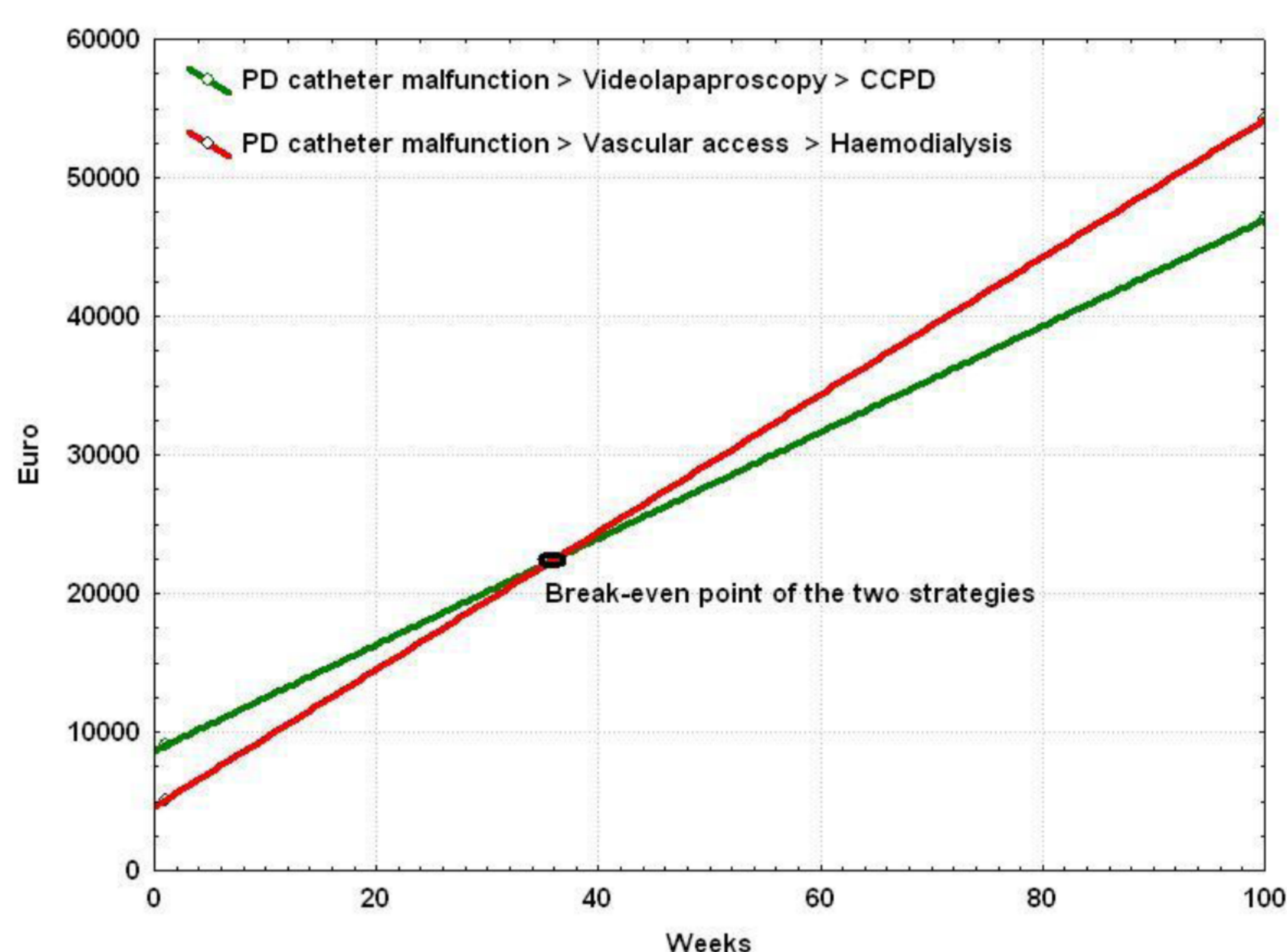
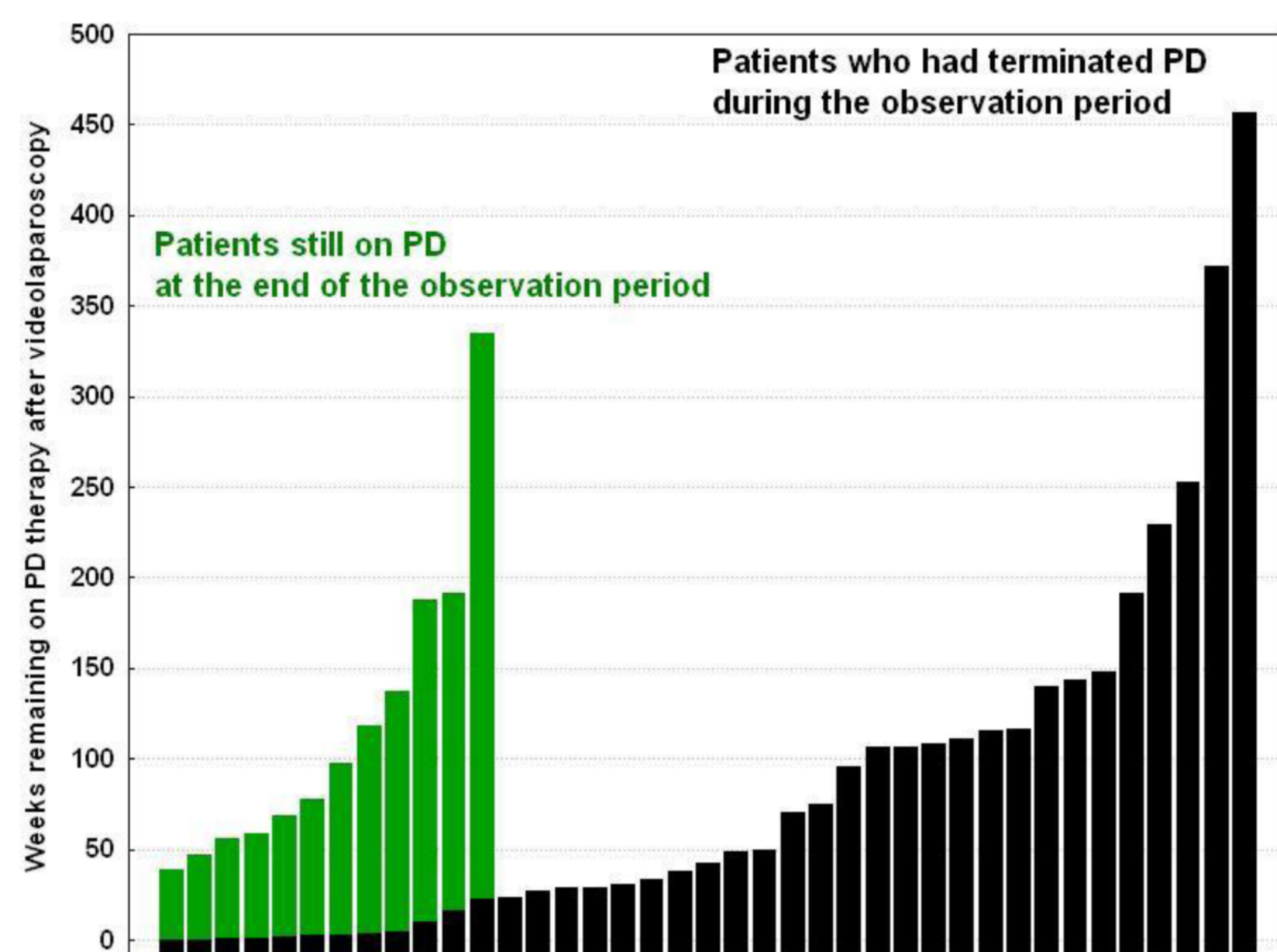


Figure 2: Weeks remaining on PD after videolaparoscopy



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