

ESTIMATION OF PERITONEAL MEMBRANE TRANSPORT STATUS FROM CLEARANCE MEASUREMENTS

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Introduction and Aims:

Regular measurement of Kt/V and creatinine clearance is suggested in peritoneal dialysis (PD) in order to document sufficient depuration, whereas measurement of peritoneal membrane transport status from peritoneal equilibration test (PET) is carried out less frequently.

The aim of the study is to estimate membrane transport status from peritoneal clearance measurements.

Methods:

D/P creatinine was calculated from PET and peritoneal clearance measurements in patients under automated (APD: 244 measurements in 125 patients) and continuous ambulatory PD (CAPD: 84 measurements in 45 patients).

APD patients presented 24-hour dialysate volume of 7535 ml up to 28416 ml (mean SD 15793 3222 ml, median 15000 ml), whereas CAPD patients respectively 4900 ml up to 15000 ml (mean SD 8361 1906 ml, median 8500 ml).

Dialysis duration in APD was in median 9 hours, respectively in CAPD in median 24 hours. Correlation matrices for the two PD modalities were elaborated.

Results:

D/P creatinine from peritoneal clearance measurements correlated significantly to D/P creatinine from PET (APD $r=0.62$, $p<0.001$; CAPD $r=0.62$, $p<0.001$).

Patients with fast peritoneal membrane transport type in PET presented significantly higher D/P creatinine in peritoneal dialysate collections (APD: mean SD 0.40 0.08, median 0.42; CAPD: mean SD 0.84 0.18, median 0.84), in confront to patients with slow transport type (APD: mean SD 0.24 0.07, median 0.23; CAPD: mean SD 0.60 0.07, median 0.58).

Conclusions:

Peritoneal transport status can be estimated from peritoneal clearance measurements in APD and CAPD. From a clinical viewpoint, the calculation of D/P creatinine by peritoneal clearance measurements is helpful to distinguish between fast and slow peritoneal membrane transport status, even without having performed previously a PET.

Figure 1: Correlation between D/P creatinine from PET and D/P creatinine from clearance measurements.

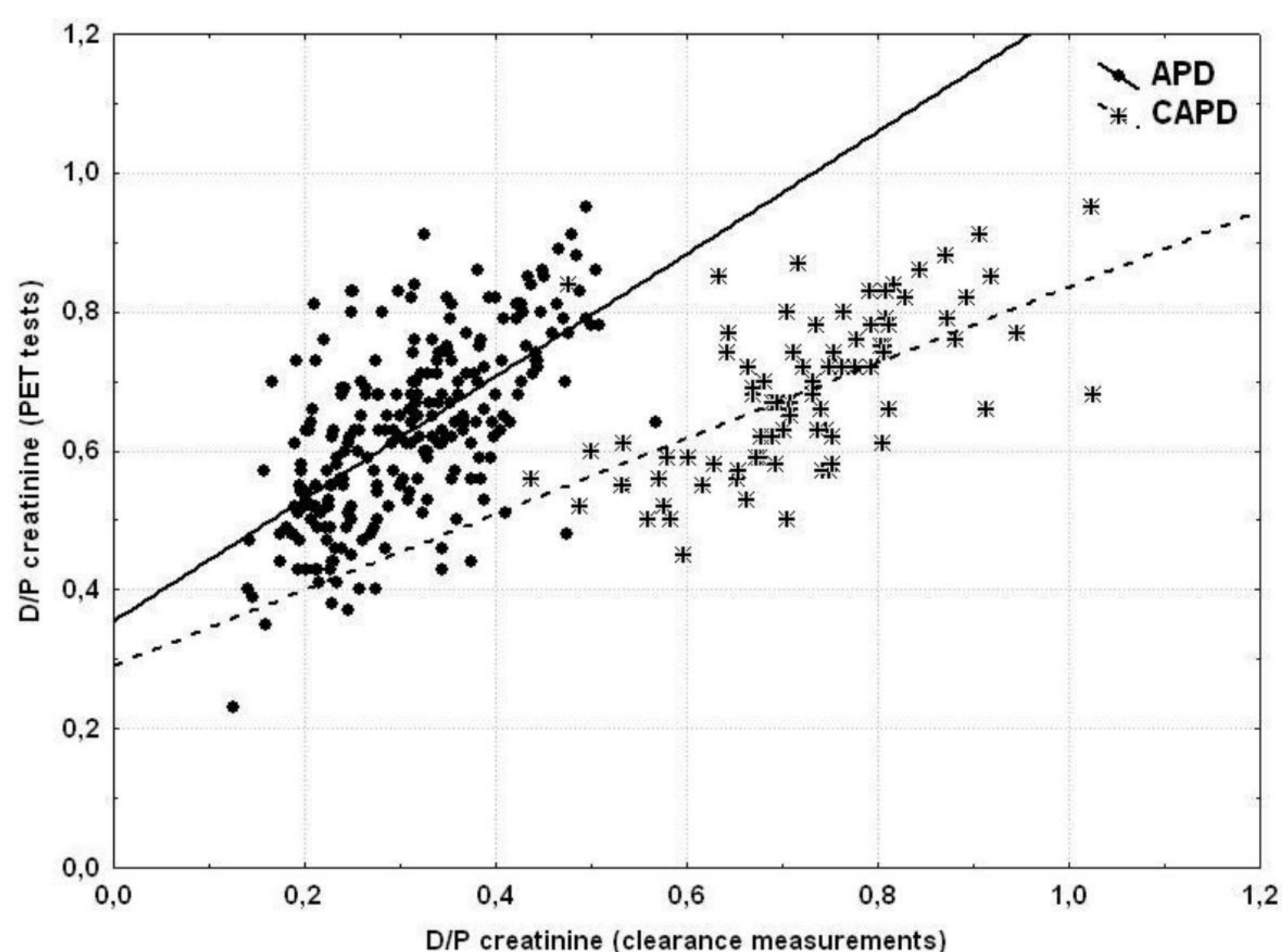


Figure 2: Correlation between D/P creatinine from PET and clearance measurements in APD.

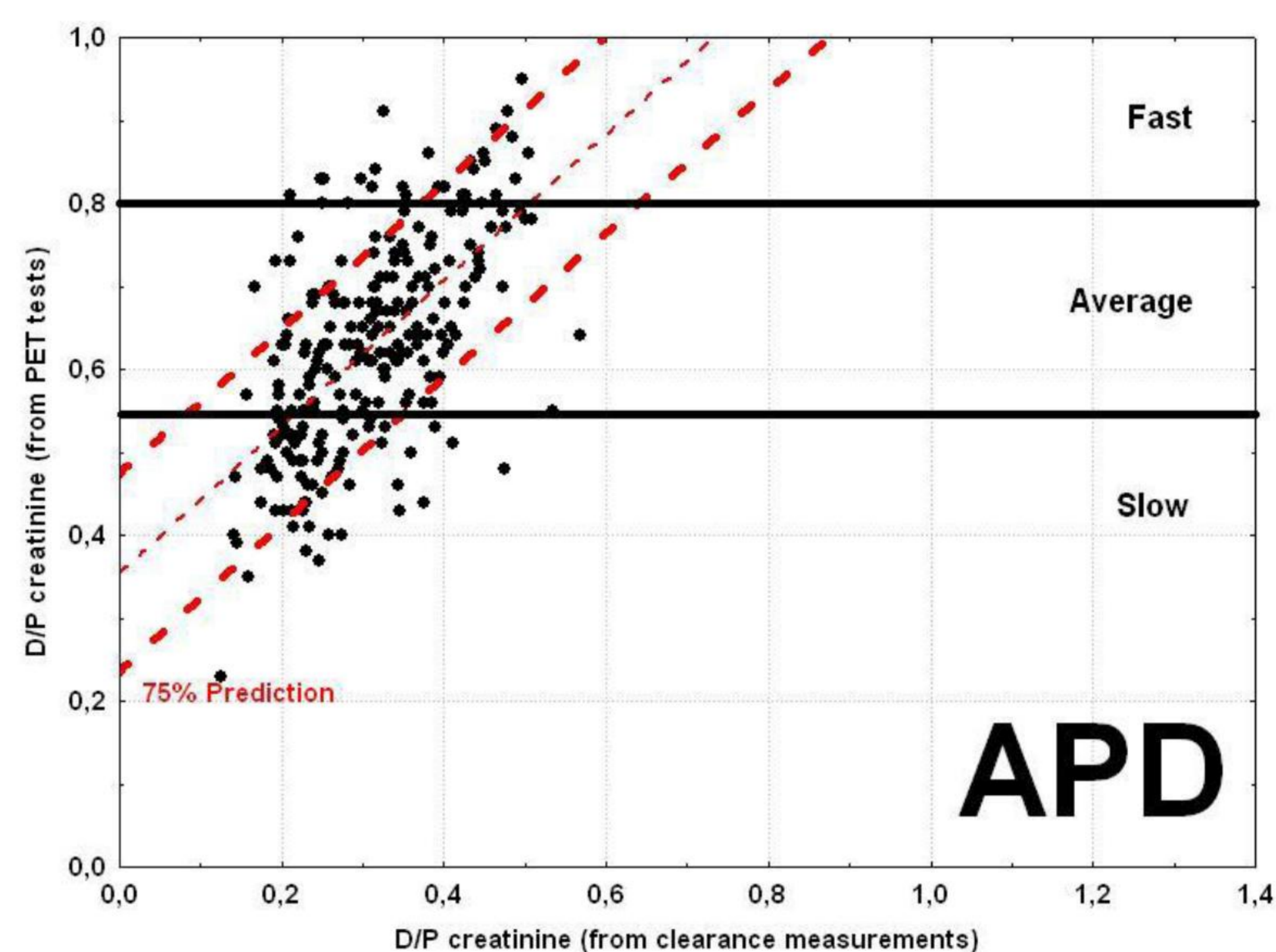


Figure 3: Correlation between D/P creatinine from PET and clearance measurements in CAPD.

