Ankle-Brachial Index is Correlated with Mortality, Morbidity and Peritoneal Transport in Peritoneal Dialysis Patients

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BACKGROUND

Peripheral artery disease (PAD) is highly prevalent among patients with end stage renal disease. PAD is associated with **high cardiovascular risk** and is often unrecognized in peritoneal dialysis patients.

Ankle-Brachial Index (ABI), a non invasive method to diagnose PAD, show a U-shaped association with mortality.

The **ABI is highly correlated with subclinical PAD**, but little is known about its association with morbidity and peritoneal transport in peritoneal dialysis patients.

OBJECTIVES and METHODS

OBJECTIVES: The objective of our study was to understand any **correlation** between **ABI** and **functional parameters of peritoneum, residual renal function, vascular calcification (Adragao Score) and cardiovascular events**.

METHODS: 72 patients

➢65,8% male

➢27,4% diabetic

➢Mean age: 55±13,8 years

➢Follow up: 36 ± 26,8 months

➢7 patients died

METHODS and RESULTS

Measurements of ABI were performed in supine position. Blood pressure was measured in the both arms (brachial artery) and ankles (posterior tibial arteries).

Highest ankle SBP/highest brachial SBP was used to calculate ABI.

❑ <u>Normal ABI</u>: value grater > 0,9

❑ <u>Clinical/Subclinical PAD</u>: ABI < 0,9 in either extremity.

❑ <u>False negative by noncompressible arteries</u>: ABI>1,3

ABI was correlated with functional parameters of peritoneum, residual renal function, vascular calcification (Adragao Score) and cardiovascular events.

	ABI normal	ABI abnormal	p
Age (years)	54,5 ± 13,8	60,5 ± 13,7	pns
Body index mass (Kg/m2)	25,78 ± 4,6	22,9 ± 3,23	0,027
Time in dialysis (months)	49,84 ± 49,38	87,35 ± 76,35	pns
PTH (pg/ml)	475,3 ± 293	213,2 ± 107	0,002
Albumin (g/L)	3,5 ± 0,5	3,34 ± 0,47	pns
CRP (mg/dl)	1 ± 1,26	1,41 ± 1,91	pns

A normal ABI were found in 84,9%. Vascular calcification were found in 20 patients (27,4%).
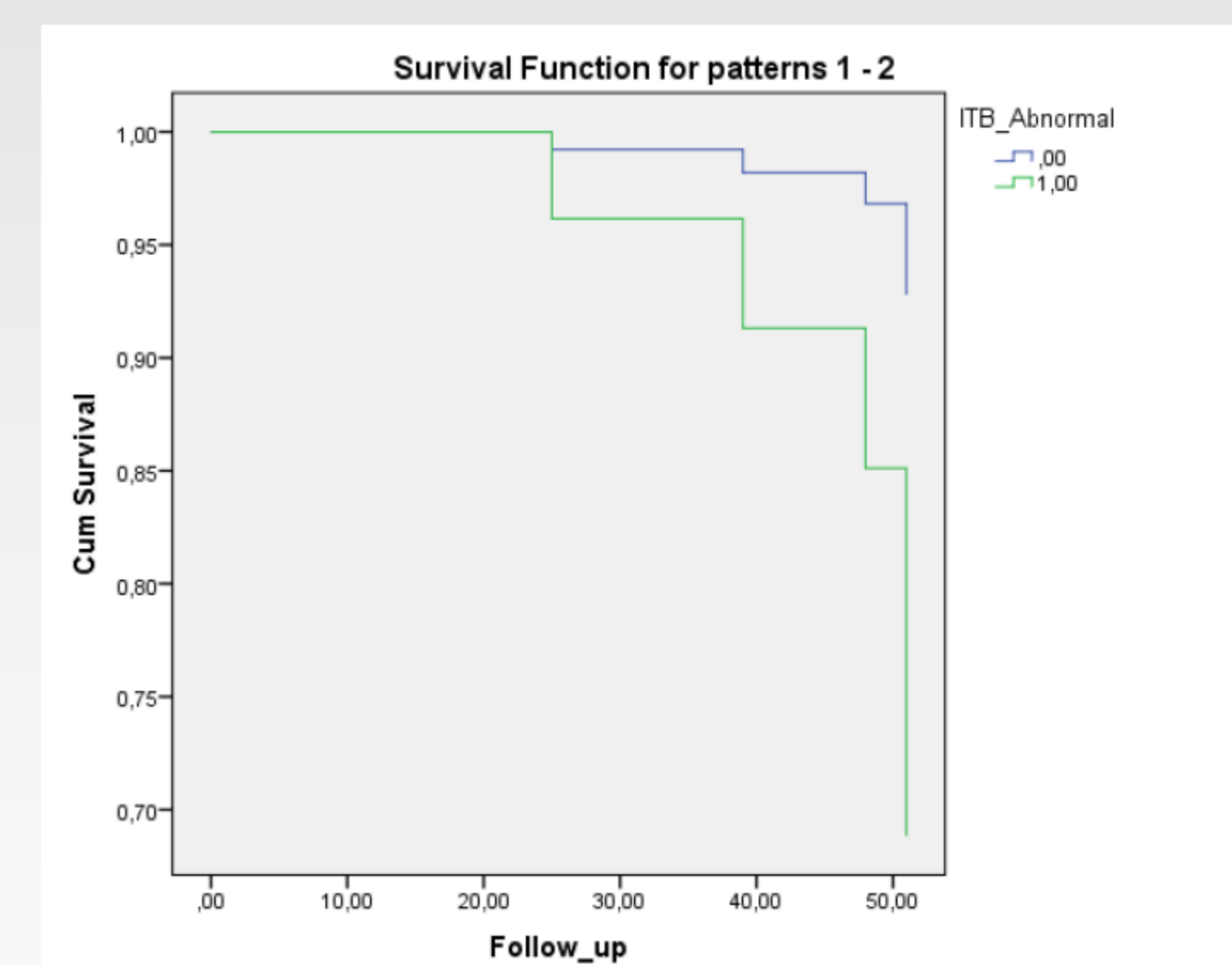
In a multivariate analysis **abnormal ABI and high peritoneal transport** were **independent predictors for amputation events**, adjusted to diabetes and age.

	Exp (B)	IC (95%)	p
ABI abnormal	0,022	0,001-0,464	0,014
High peritoneal transport	0,014	0-0,789	0,038

In a cox regression **high peritoneal transport and abnormal ABI** were both **predictors for death and cardiovascular events.**

	HR	IC (95%)	p
ABI abnormal	1,12	0,011-1,34	0,05
High peritoneal transport	1,04	0,002-1,705	0,028

Survival Function for patterns 1 - 2

CONCLUSION

ABI was a **predictor for death and cardiovascular events in peritoneal dialysis patients**.

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467--SP

M) Dialysis. M2) Peritoneal dialysis.

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