

PROSPECTIVE CONTROLLED STUDY OF SYSTEMATIC ULTRASOUND MAPPING IN PATIENTS WITH HIGH RISK OF FAILURE IN FISTULA CREATION

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AIM

Strategy to prevent vascular access thrombosis include mapping and early stenosis diagnosis. Ultrasound (US) use can substantially change the practice given that intervene in these steps. It has been suggested the usefulness of mapping for prevention of immediate failure in patients with higher risk but recommendation is not well established. On the other hand the role of surveillance in arteriovenous fistula (AVF) is controversial. The aim of the study is to evaluate the usefulness of US mapping in AVF patency in high risk patients for AVF failure.

MATERIAL AND METHODS

- Prospective cohorts study
- Multidisciplinary team: nephrologist, vascular surgeon, interventional radiologist and nursing.
- Mapping: 2 groups
Control Group : Preoperative physical examination by a specific vascular surgeon with selective US
Study Group : Preoperative routine ultrasound mapping by a nephro-surgical team
- Treatment by protocol. Surgery/angioplasty depending stenosis location. In juxta-anastomotic area: surgery; rest of the territory: angioplasty.
- Outcomes: Secondary Patency. Kaplan-Meier (Log-Rank test)
- Data Record: NephroCloud®

RESULTS

N= 334 patients

Ultrasound Group : 257
Control Group: 77

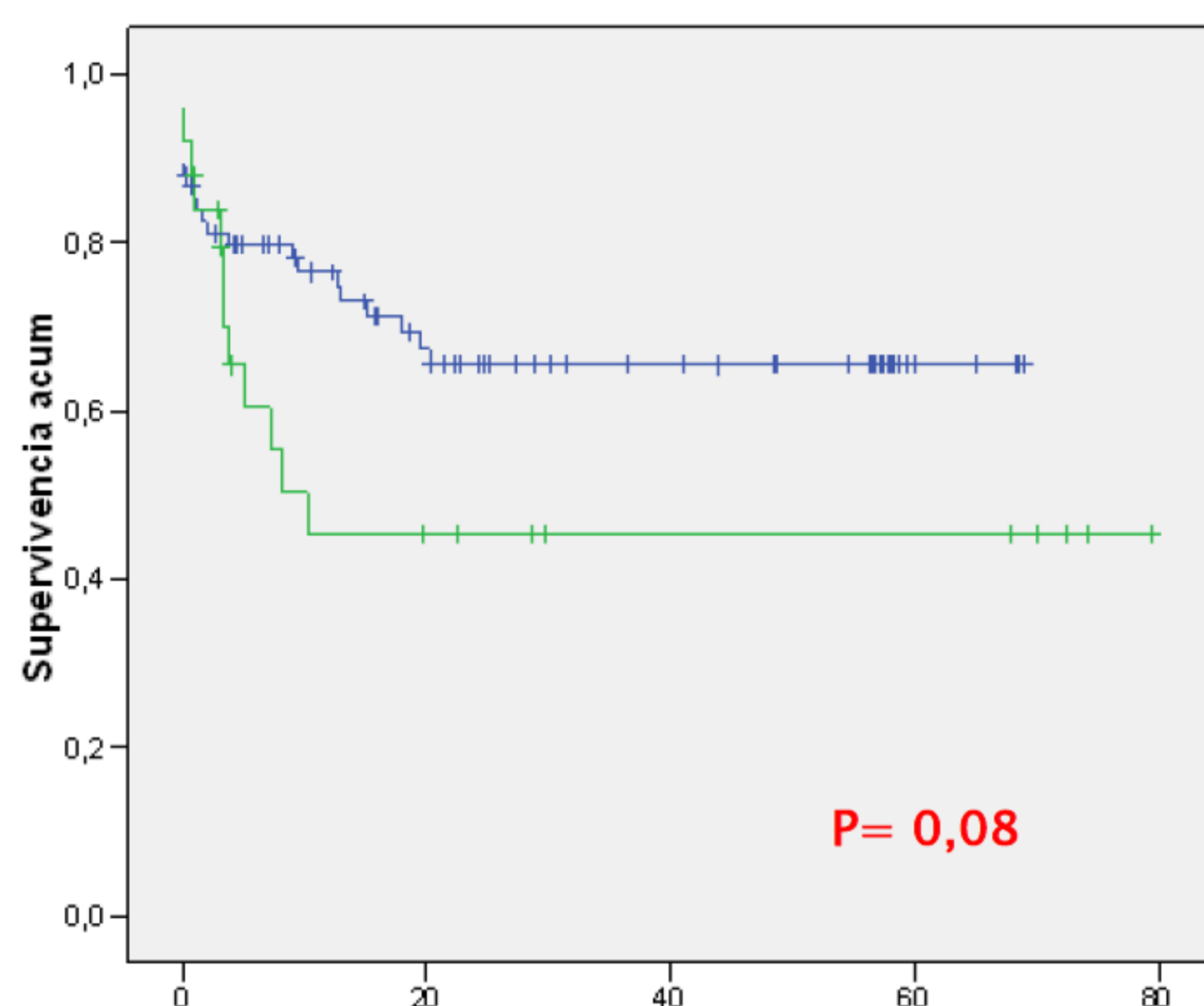
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	US GROUP	PHYSICAL EXAMINATION GROUP
<u>GENDER</u>	117 FEMALE 45,5% 140 MALE 54,5% 257 PATIENTS 100%	31 FEMALE 40,26% 46 MALE 59,74% 77 PATIENTS 100%
<u>AGE (years)</u>	MEAN 64,77 ± 13 ≥ 75 years: 35,8%	MEAN 62,46 ± 15,2 ≥ 75 years: 35,06%

	US GROUP	PHYSICAL EXAMINATION GROUP
DISTAL RADIAL ARTERY	123 47,89%	41 52,70%
HUMERAL ARTERY	121 47,1%	34 44,59%
OTHER	13 5,01%	2 2,71%

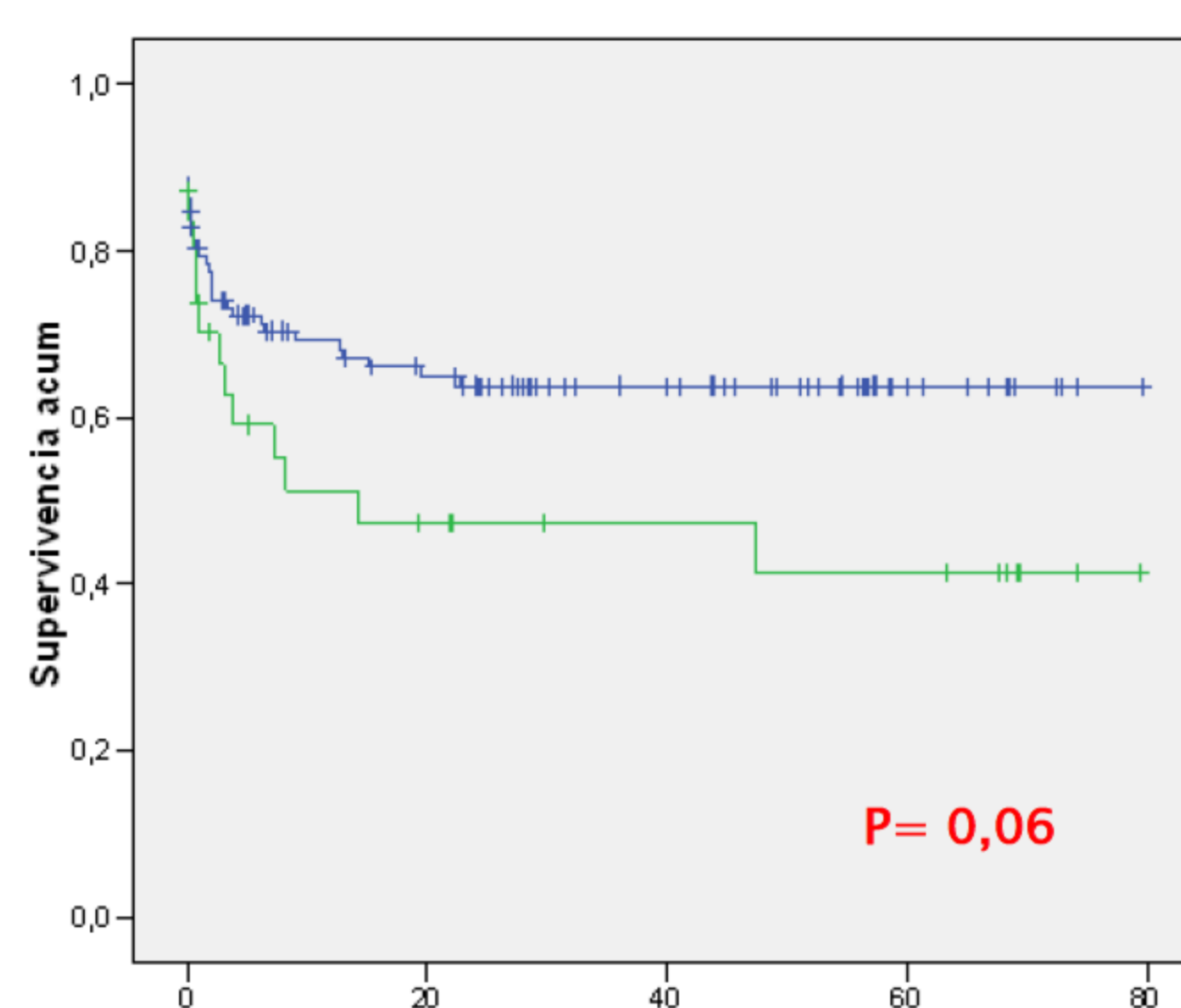
SECONDARY PATENCY to 1,2,3,4,5 years

AGE > 75 y.o



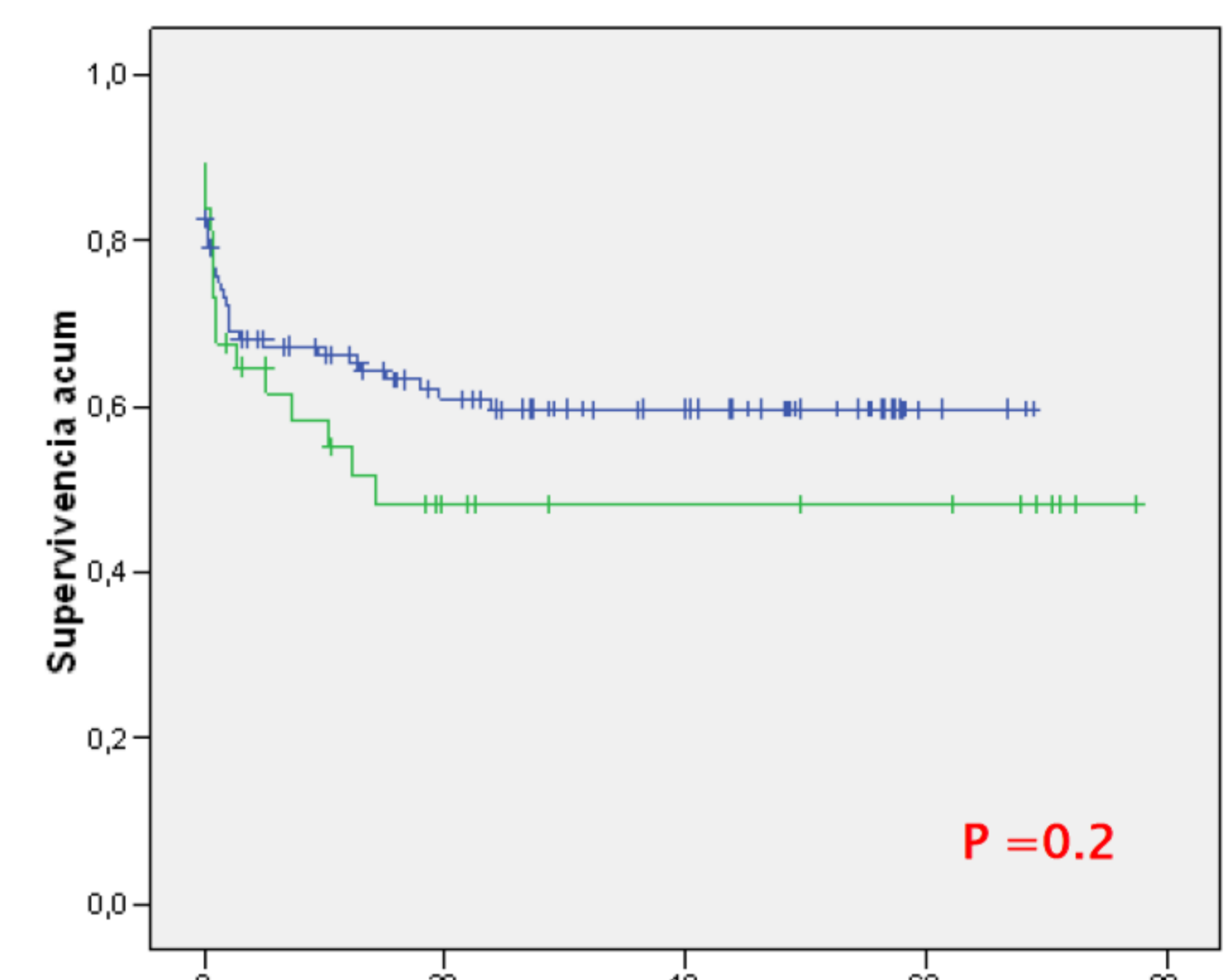
•US GROUP: 76%, 65%, 65%, 65%, 65%
•PHYSICAL EXAMINATION GROUP: 45%, 45%, 45%, 45%, 45%

GENDER= FEMALE



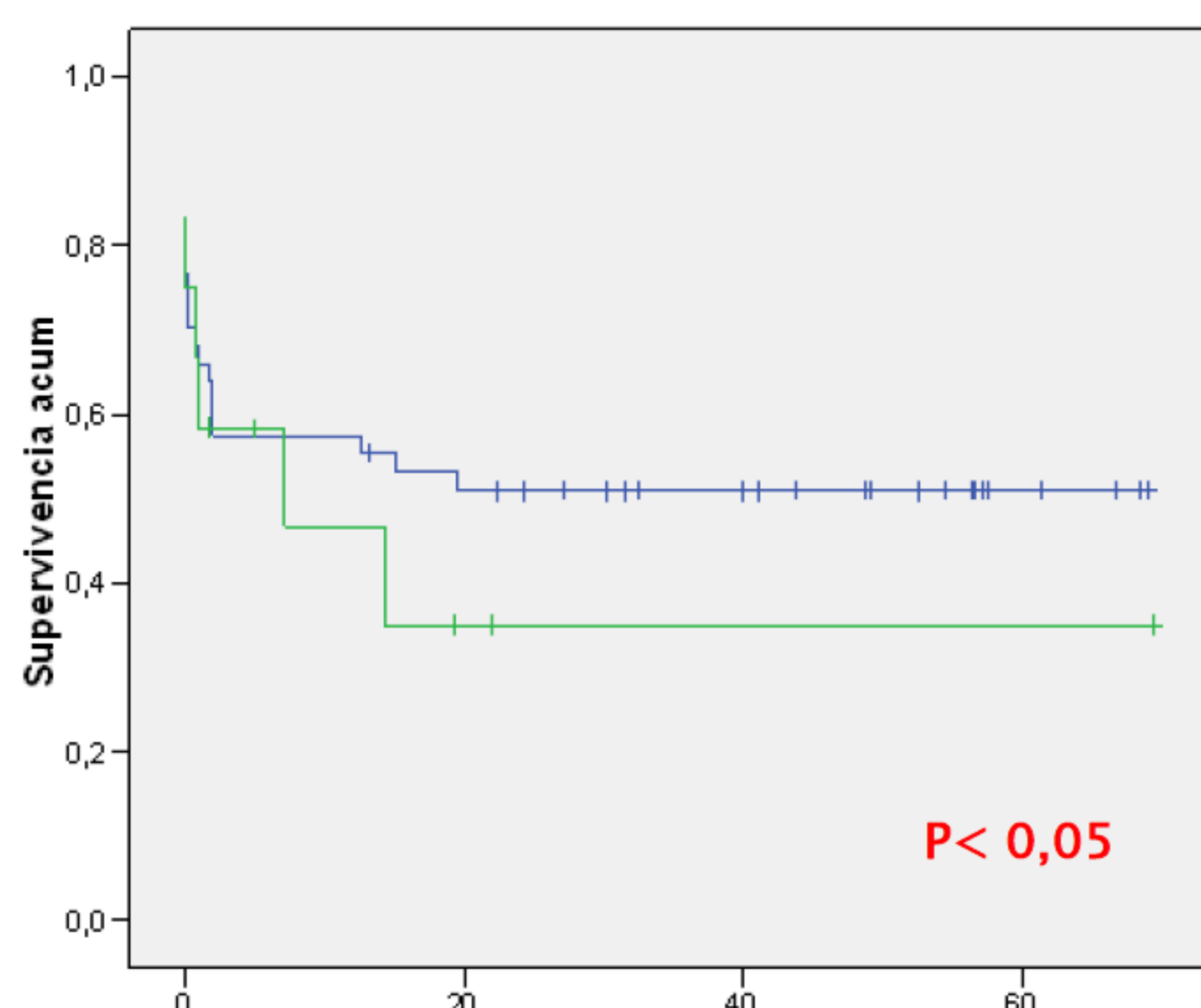
•US GROUP: 69%, 63%, 63%, 63%, 63%
•PHYSICAL EXAMINATION GROUP: 51%, 47%, 41%, 41%, 41%

RADIAL ARTERY



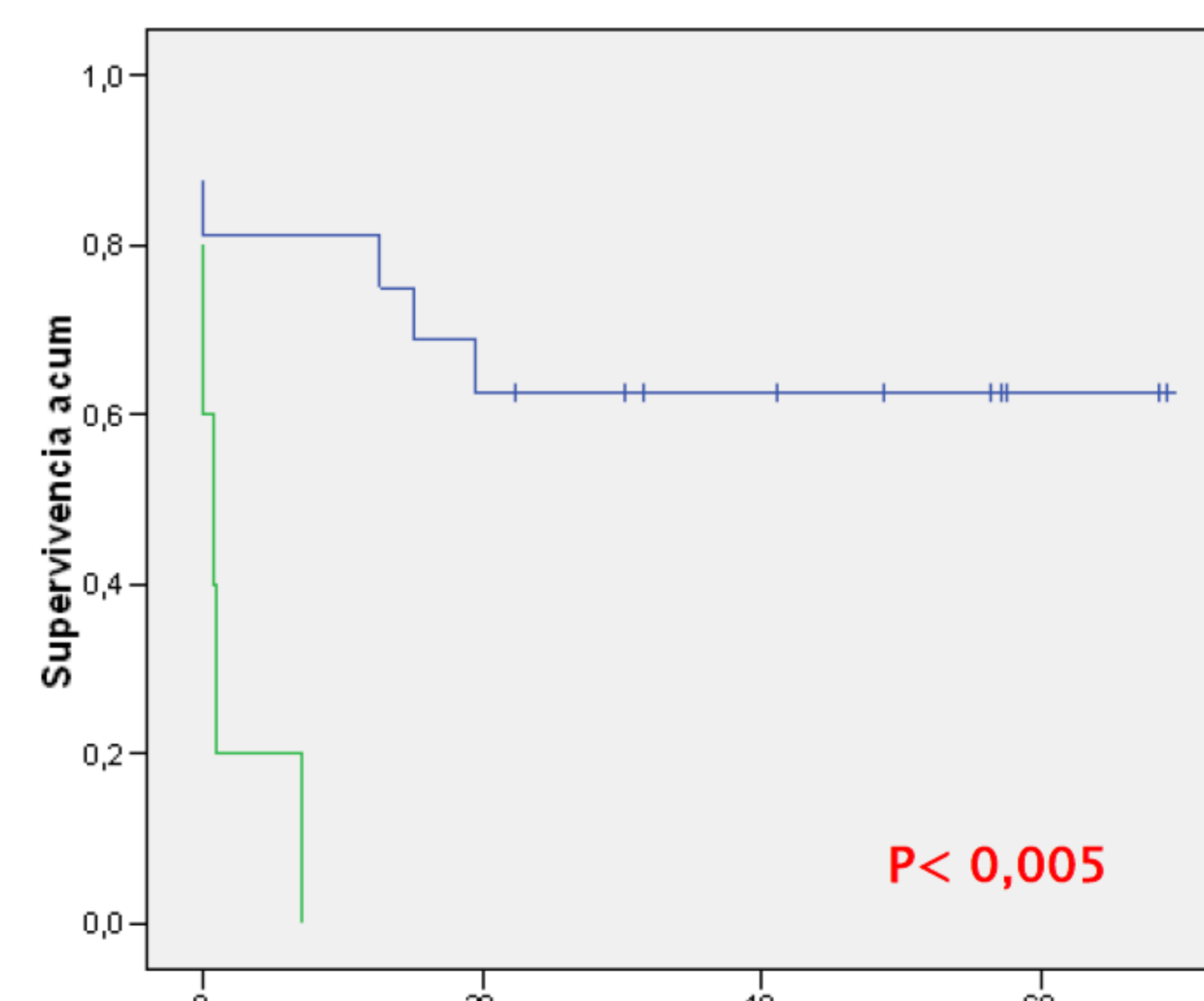
•US GROUP: 66%, 59%, 59%, 59%, 59%
•PHYSICAL EXAMINATION GROUP: 55%, 48%, 48%, 48%, 48%

> 75 YEARS + FEMALE



•US GROUP: 74%, 61%, 61%, 61%, 61%
•PHYSICAL EXAMINATION GROUP: 28%, 28%, 28%, 28%, 28%

> 75 YEARS + FEMALE + RADIAL ARTERY



•US GROUP: 81%, 62%, 62%, 62%, 62%
•PHYSICAL EXAMINATION GROUP: 20%

CONCLUSION

- ✓ Routine US mapping can be helpful for AVF planning in high risk patients for fistula failure.
- ✓ The results of secondary patency in patients with the combination of older age, female sex and distal vessels can be comparables to general dialysis population

