

# VASCULAR GRAFT ACCESS FOR HEMODIALYSIS: ASSOCIATED COMPLICATIONS, THERAPEUTIC PROCEDURES AND PATENCY IN THE LAST THIRTEEN YEARS

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## BACKGROUND

Surveillance and monitoring of vascular access (VA) for hemodialysis (HD), allows a greater detection and early treatment of related complications, which will increase their patency; although this is a constant controversy in these topics.

## OBJECTIVES

- To establish the complications and therapeutic procedures associated with the use of vascular graft accesses (VGA) in our HD unit.
- To analyse VGA patency in our HD unit.

## MATERIAL AND METHODS

Unicentric retrospective study with two comparative periods:

- A Period (VA Monitoring: 2006-2013)**
- B Period (No VA monitoring: 2000-2005)**

Analyzed data:

- Demographical data, major comorbidities and diagnostic procedures (D.S.I.).
- Related complications:
  - Stenosis
  - Thrombosis
  - Aneurysms / pseudoaneurysms
  - rupture and infection in VGA.
- Therapeutical Interventions:
  - Angioplasty
  - Thrombectomy
  - VGA withdrawal
- Patency rates:
  - Primary patency (1st)
  - Assisted patency
  - Secondary patency (2nd)

## RESULTS

### DEMOGRAPHIC DATA

107 patients in HD included (A Period: 46 pac)  
123 VGA in total  
56 excluded (39%: duration < 6 months)  
Analyzed: 67 VGA (A Period: 28)  
Mean Age: 68.9 13.5 years (56% men)  
Mean time in HD: 70,8 68.7 months

	A Period	B Period
Age (years)	65,7 ± 14,4	71,9 ± 12,1
Time HD (months)	68,4 ± 62,4	72 ± 75,6
Gender (% M)	57,7	39,9

"No significant differences in the analyzed demographic parameters (age, sex, comorbidity and time HD) or the main etiology of CKD were found in the two study periods"

### COMORBIDITIES

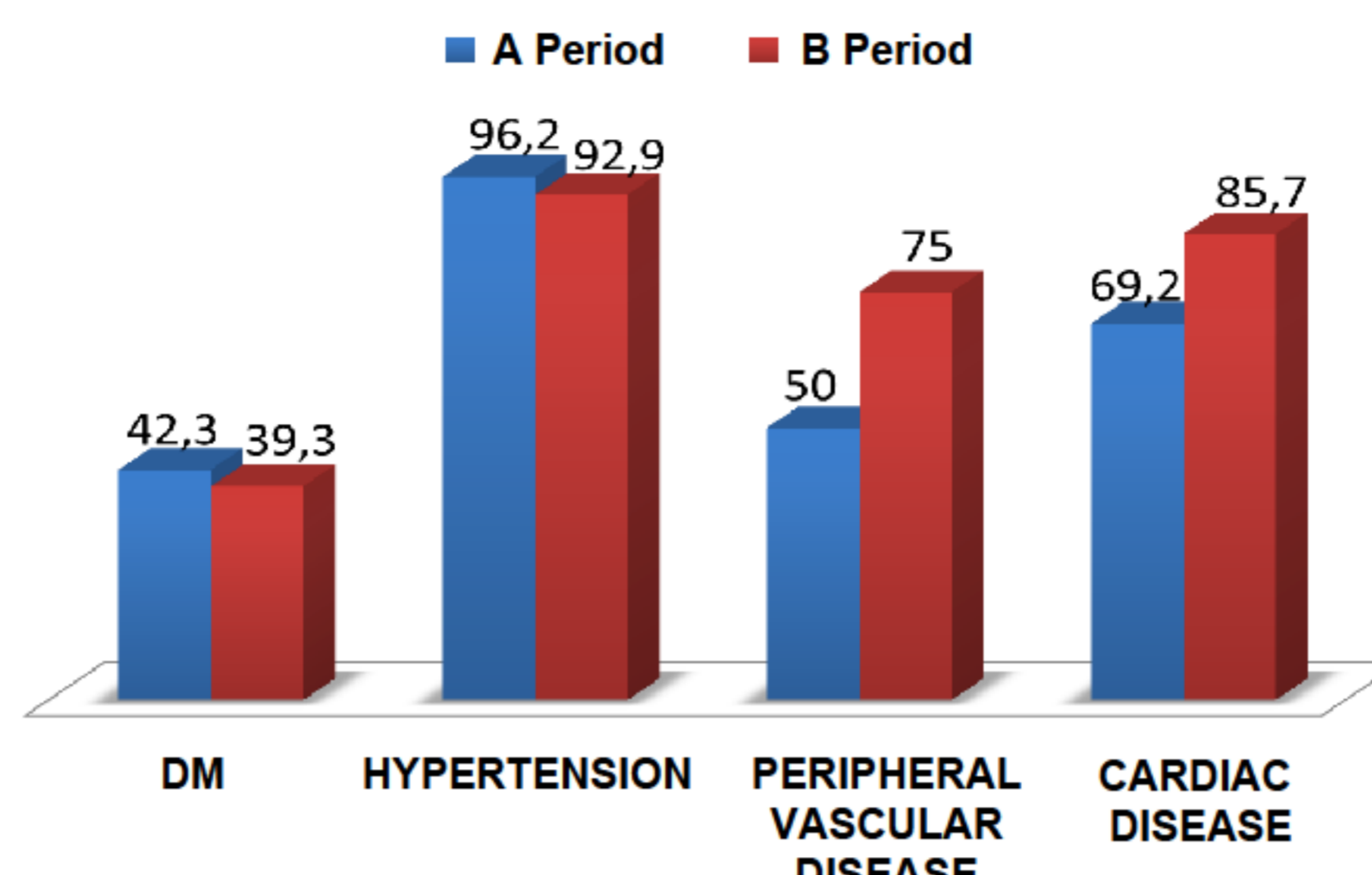


Figure 1.- Main comorbidity in HD (%). Comparison between the periods of study (A vs B): Hypertension (HTA), Diabetes Mellitus (DM), peripheral vasculopathy, Heart disease (ischemic / structural)

### DYSFUNCTION AETIOLOGY

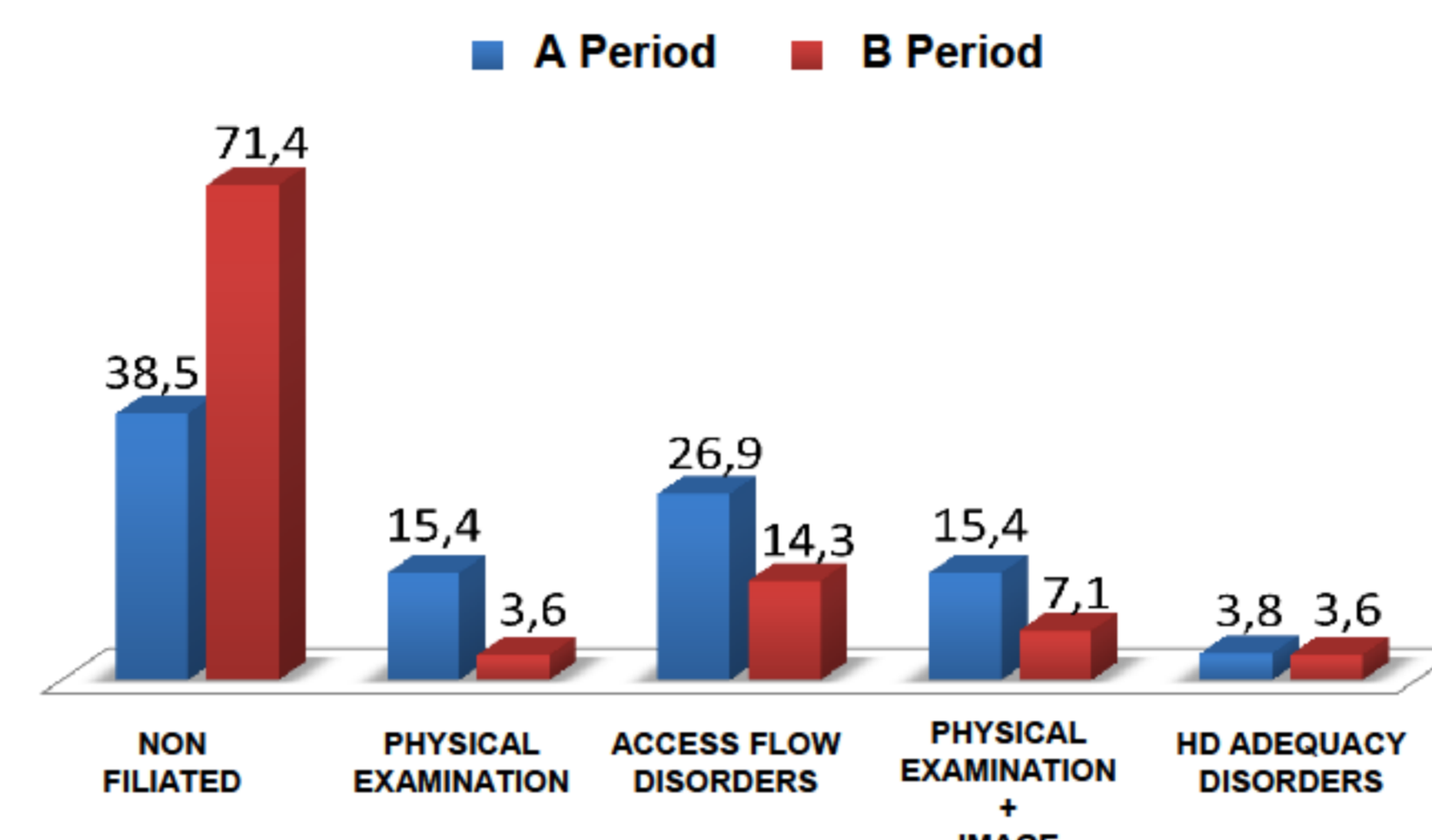


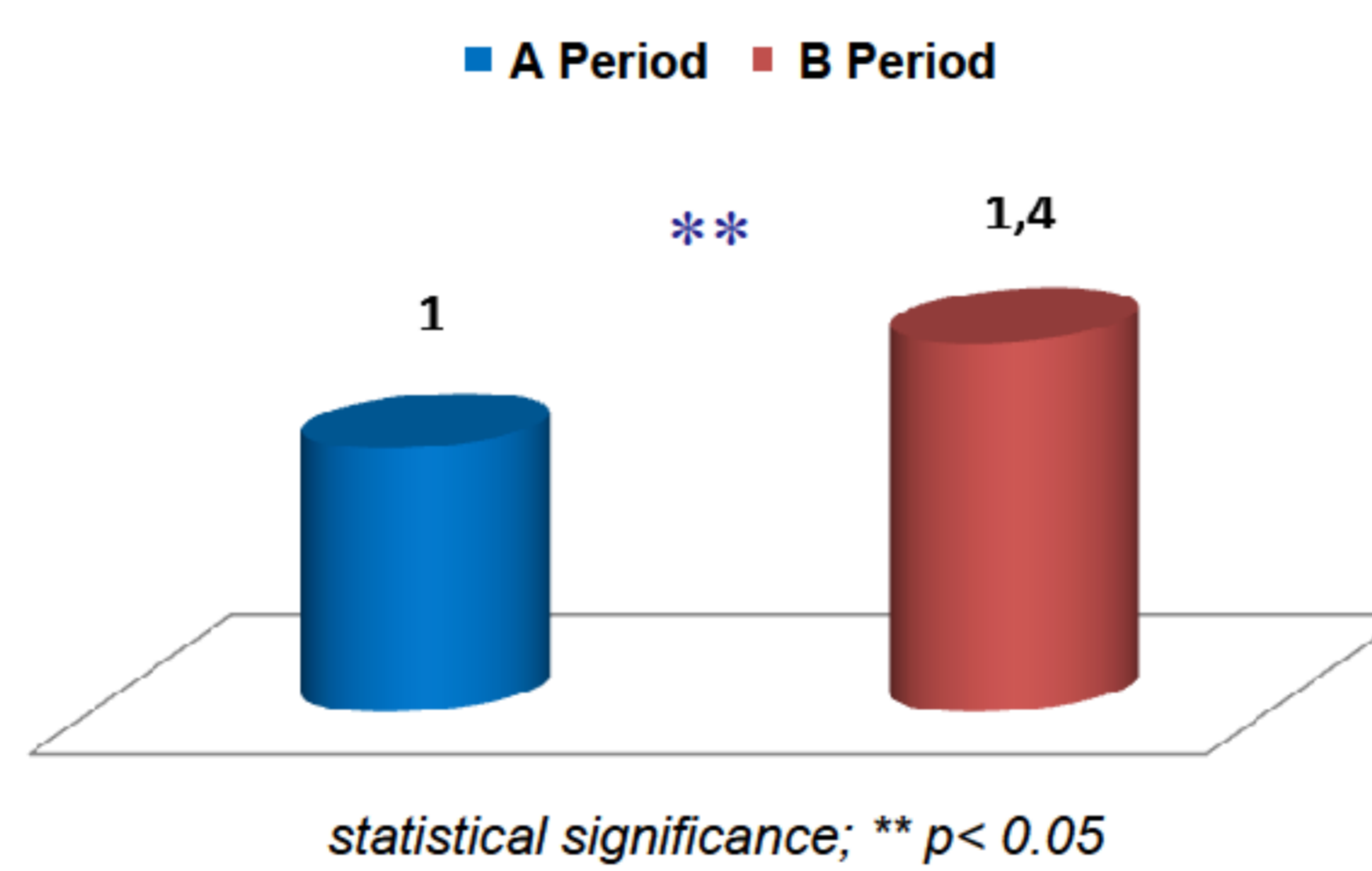
Figure 2.- Main VGA dysfunction aetiology (%): Comparison between the periods of study (A vs B)

### VASCULAR ACCESS DATA

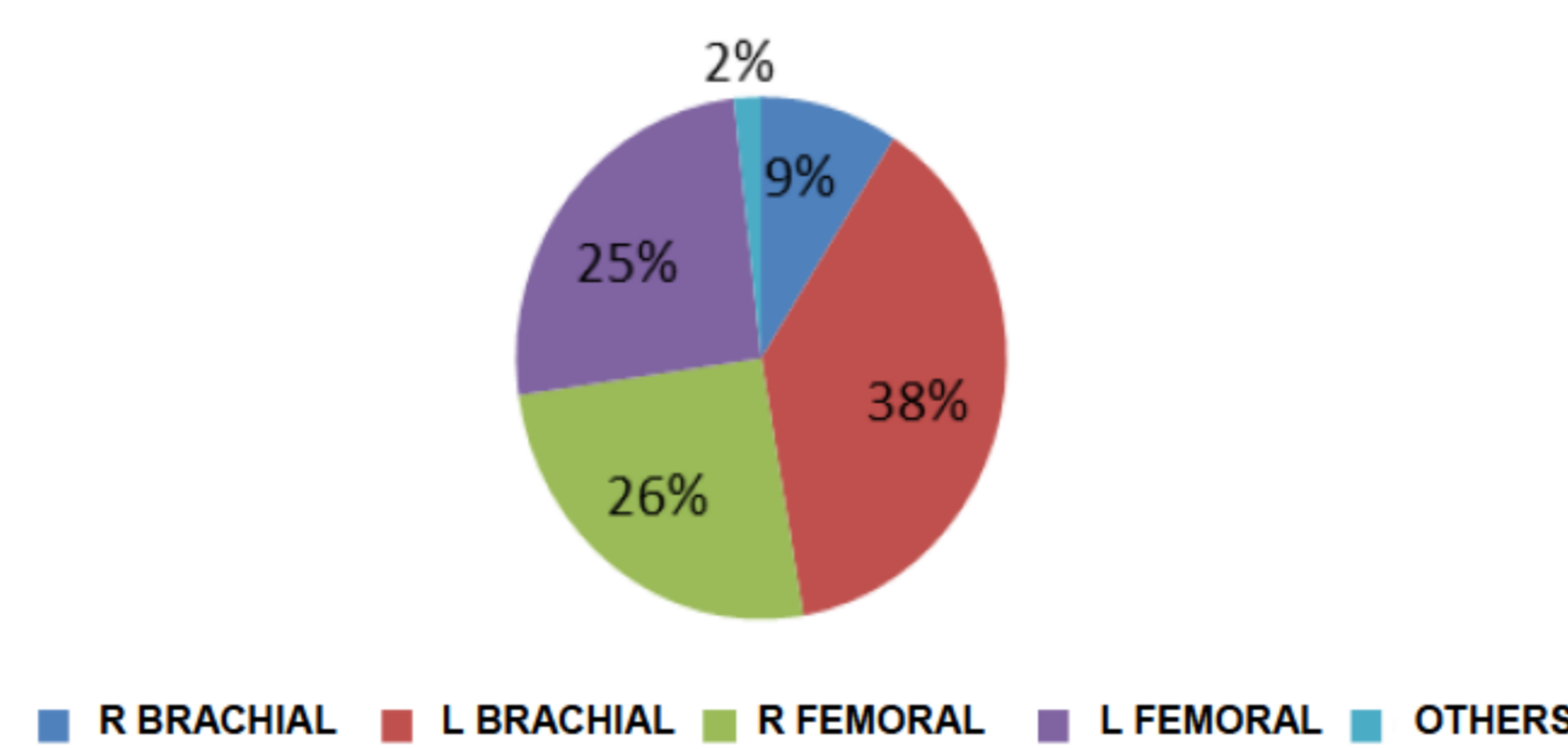
	A Period	B Period	p
Total VA (VGA)	28	39	0.013
Total complications	65	47	0.177
Total therap. interv.	48	26	0.103
Total diagn. proc.	54	35	0.094

Table 2.- Global data of the study periods (A vs B): Vascular access (VGA), complications, interventions and diagnostic procedures

### VGA PER PATIENT



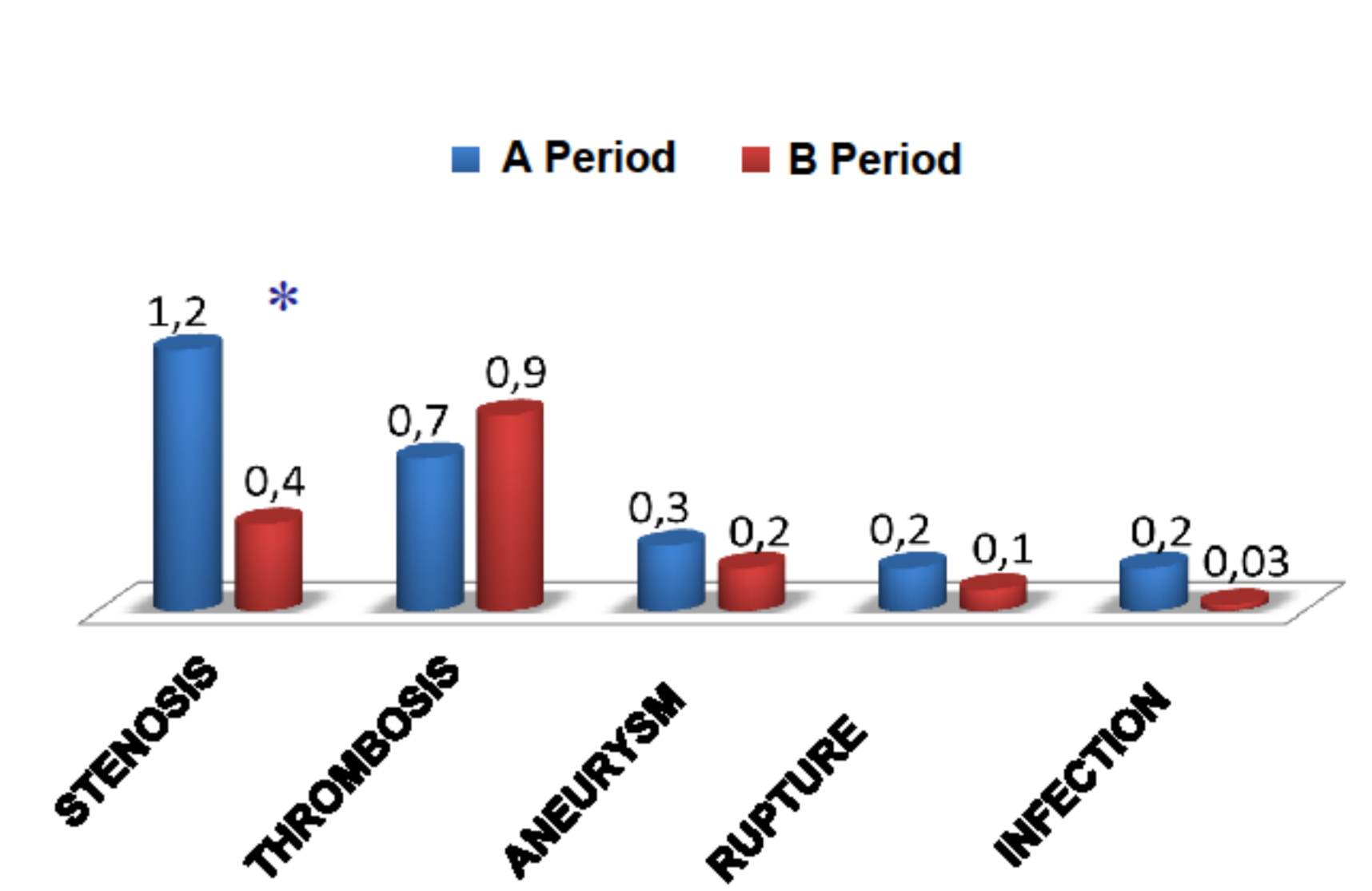
### VGA LOCATION



"No significant differences in the locations of PTFE were found in both study periods"

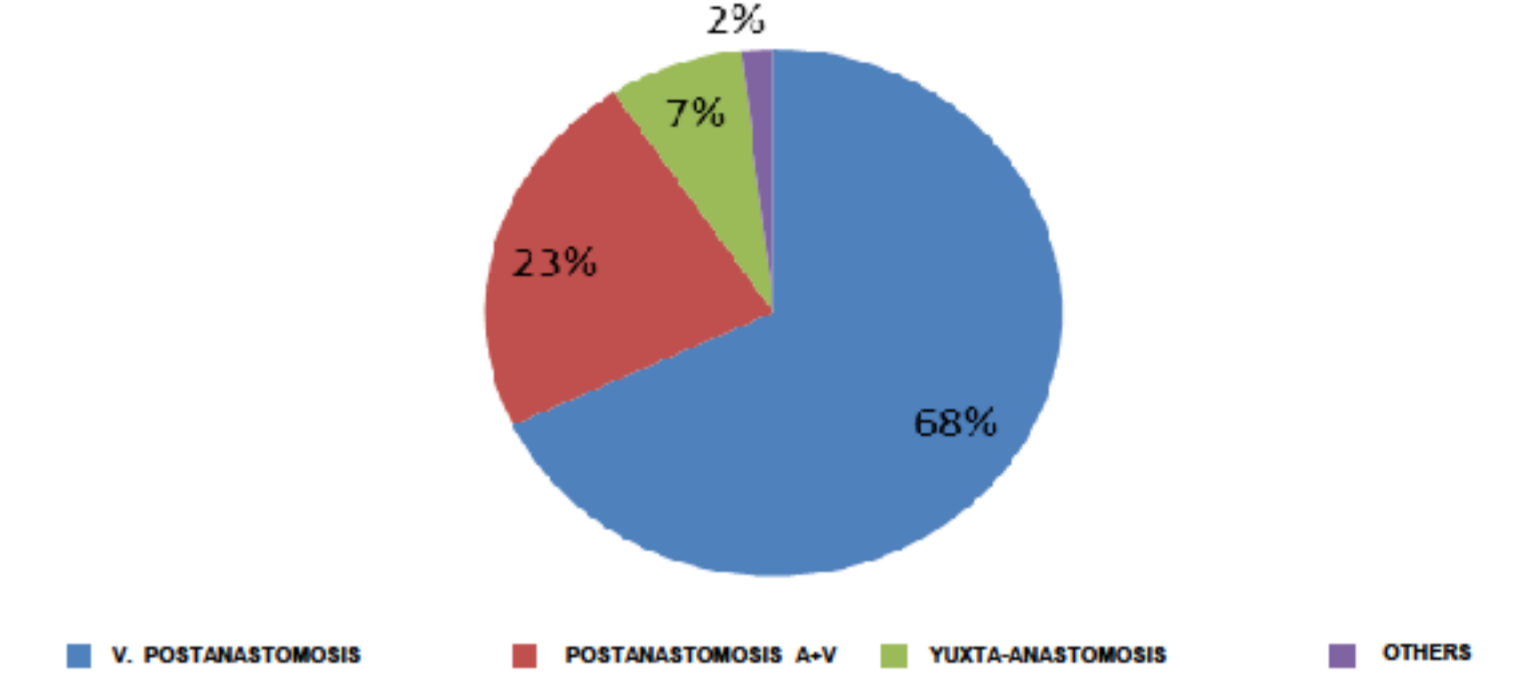
Figures 3 and 4.- VGA vascular access data per patient (mean) and main location (%) in both study periods (A vs B)

### COMPLICATIONS PER VGA



statistical significance: \*p=0.086

### LOCATION OF VGA STENOSIS



"No differences were found between study periods"

Figures 5 and 6- Complications data per vascular access (mean) and main location (%)

### THERAPEUTICAL INTERVENTIONS PER VGA

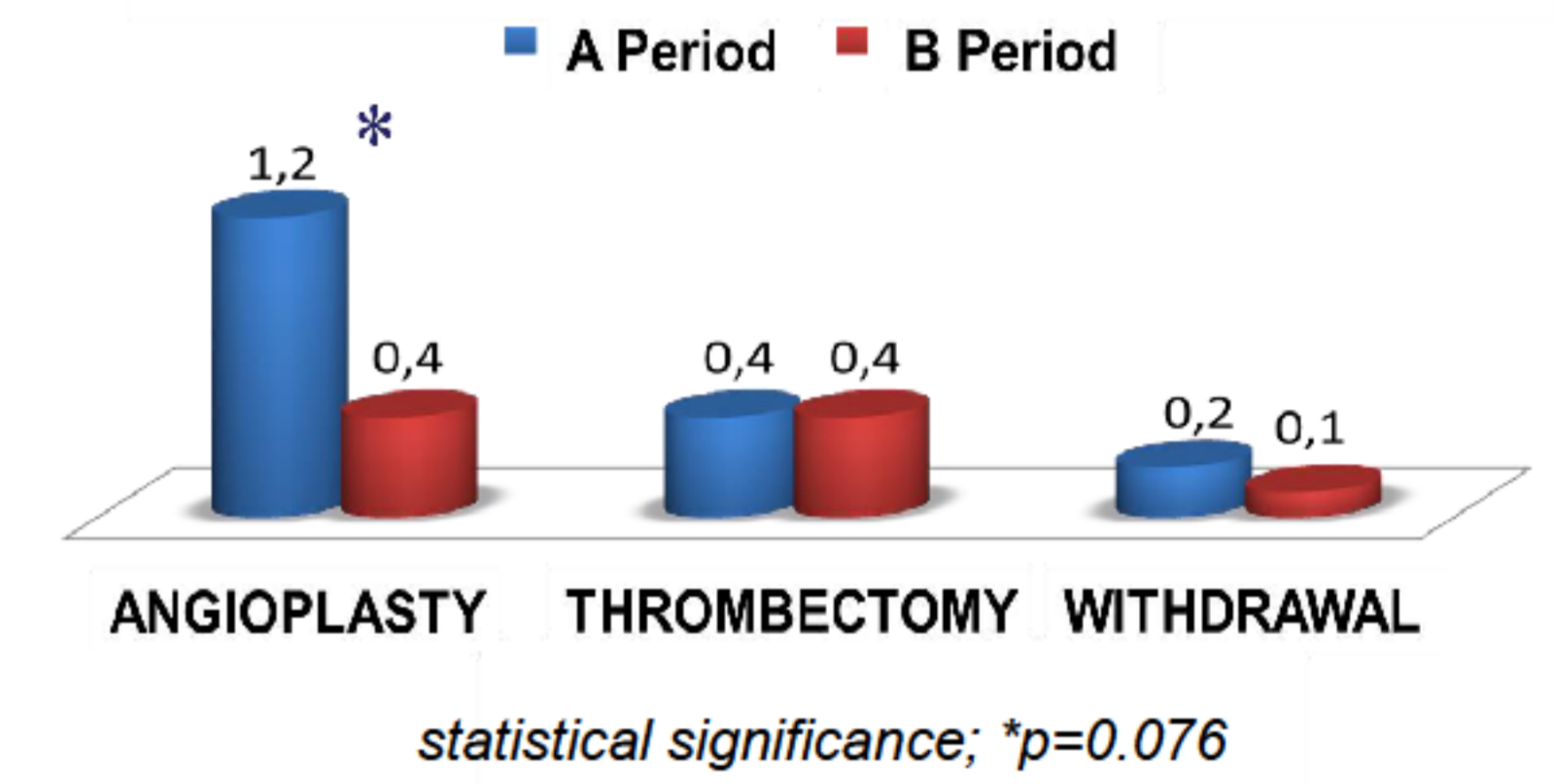
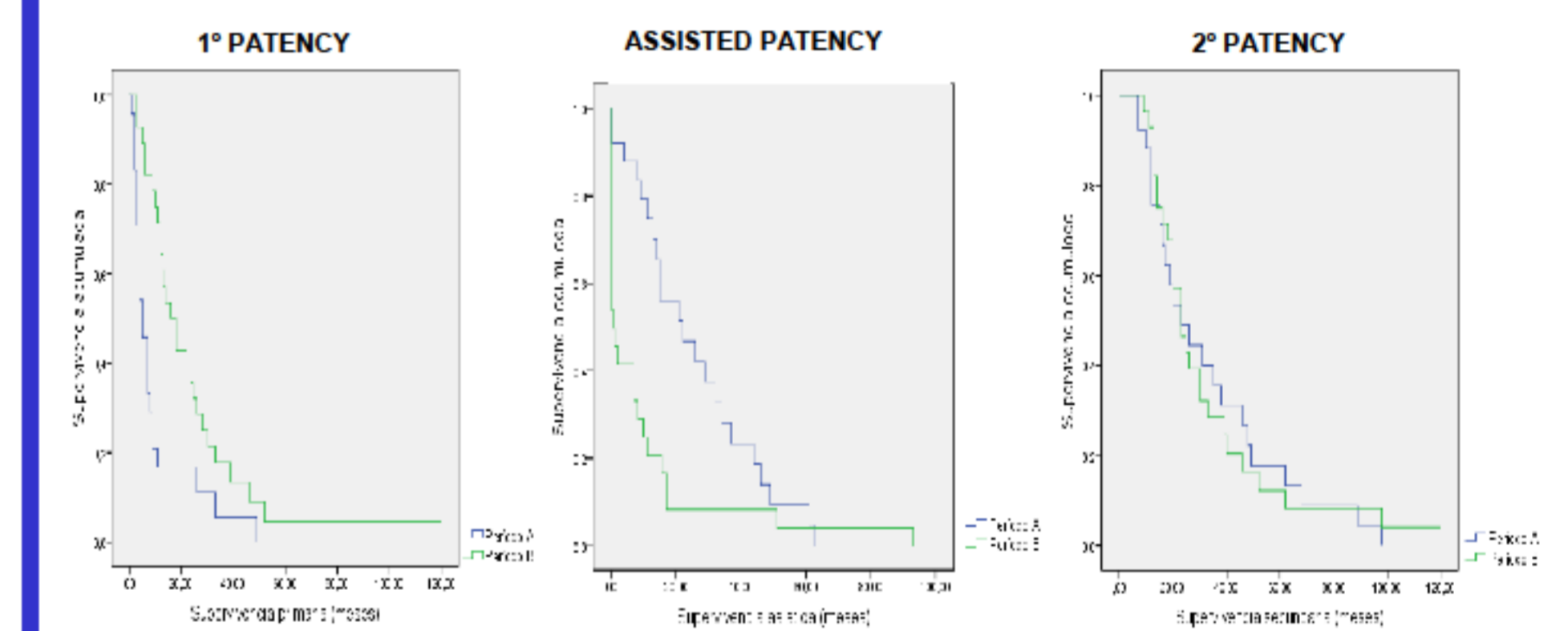


Figure 7.- Mean Therapeutical interventions per vascular access in each period of study

### VASCULAR ACCESS PATENCY



	A Period	B Period	p
1° Patency	8,5 ± 11,1	23,1 ± 22,9	0.005
Assisted patency	21,9 ± 18,8	8,4 ± 19,6	0.013
2° Patency	30,5 ± 25,3	31,6 ± 25,5	0.870

Figure 8 and Table 3.- 1° patency, assisted and 2° patency of the VGA (months) in each study period (A vs B)

## CONCLUSIONS

- In our study, the surveillance and monitoring allowed early detection and increase therapeutic interventions of the vascular access.
- After the introduction of monitoring and surveillance we reduce the number of VGA per patient and increase primary and assisted patency.