

**EFFECTIVENESS, SAFETY AND
HEMODYNAMIC ASSESSMENT OF
NEUROMUSCULAR ELECTROSTIMULATION
IN RADIOCEPHALIC FISTULA**

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BACKGROUND

- Radio-cephalic fistula (RCAVF) is the gold standard vascular access for end-stage chronic kidney disease patients.
- Scarce results regarding neuromuscular electrostimulation (NMES) in RCAVF maturation and hemodynamic assessment have been reported
- Nevertheless, no articles are published regarding neuromuscular electrostimulation (NMES) in AVF maturation and their impact during haemodialysis (HD) sessions.

OBJECTIVES

- To assess the effectiveness, safety and hemodynamic assessment on RCAVF previously matured with NMES programme

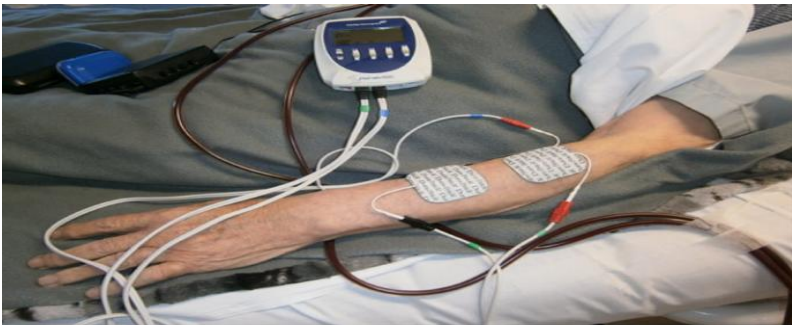


Fig. 1. Patient with electrodes placed on the skin underwent low-intensity electrical stimulation in the forearm muscles of the RCAVF upper limb during HD session.

METHODS

- 8 weeks single-centre prospective study in RCAVF previously matured with a NMES programme.
- Clinical and Doppler Ultrasound (DUS) maturation, haemodynamic data (SBP, DBP, PP, HR) and medical or surgical RCAVF complications were analysed.



RESULTS

DEMOGRAPHIC DATA

- 11 ESG radio-cephalic forearm fistulae (RCAVF)
- Median age 65,4 ± 15.1 years.
- 18% were females.
- 82% were left sided.
- The median Chalson index was 8.7 ± 3.9

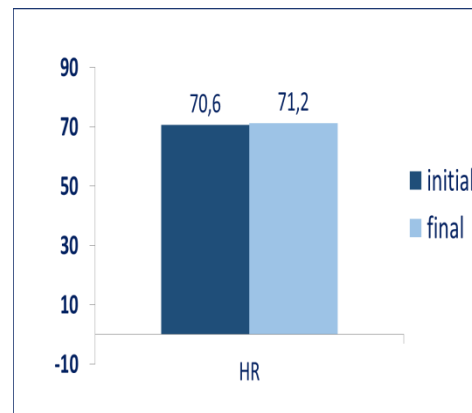
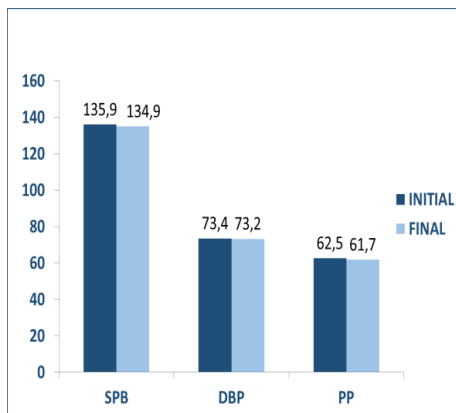
HAEMODINAMIC PARAMETERS

	INITIAL	FINAL	P. VALUE
Dry weight	72.7 ± 12.6	72.1 ± 12.4	p 0.895

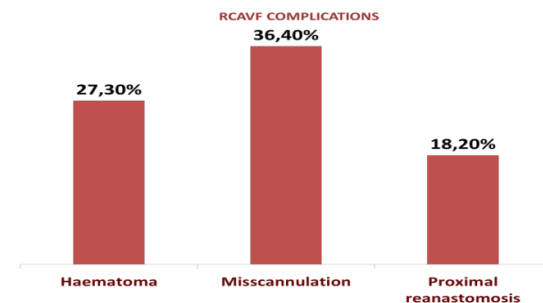
	INITIAL	FINAL	P. VALUE
UF rate	607.6 ± 24.4	652.1 ± 22.5	p 0.673

	INITIAL	FINAL	P. VALUE
KTv	1.45	1.54	0.119

HAEMODINAMIC DATA



RACVF COMPLICATIONS



No symptomatic hypotensive events were reported

No relevant changes in haemodynamic data were observed at the end of study.

CONCLUSIONS

- A formerly NMES programme is a safe, well tolerated and effective technique to assess RCAVF maturation process in our patients.
- These results reinforce the role of NMES programme in the short-term follow up RCAVF maturation process.
- Nevertheless, further studies are required to confirm the potential effect of NMES in the vascular access maturation process.



THANK YOU