MONITORING OF ARTERIO-VENOUS FISTULA MATURATION
in 33% only brachiobasilic or prosthetic fistulae was possible. Black race was found and non-black patients.
both arms; 31% presented monophasic or biphasic waveform in any of the principle
motive to increase.
men, followed by a rebound significantly increase (P .058).
most frequent motive of referral to an endovascular procedure before and after the pandemic
was the new coronavirus disease, named by World Health
sciences and social demographic features, remaining the venous system as the
Arterial fistula (AVF) maturation is key to reduce the residence time of central venous
access in patients with end-stage renal disease (ESRD). In general, ESRD patients have a higher number
comorbidities and are at risk for the severe presentation of this disease.
As a lifeline of haemodialysis patients, vascular access (VA) care has a profound impact on the patient’s quality of dialysis and life but the ideal management of VA
during the pandemic is currently unknown.
Many centres differed on their approach and referral criteria to minimize COVID-19
risk but the impact on VA and patient survival is unknown.

In this multicentre retrospective cross-sectional study, we analysed the impact of the
pandemic on VA maintenance in Vascular Access Centres of Nephrocare Portugal.
METHOD: The authors collected VA data from haemodialysis patients treated at three
Vascular Access Centers of Nephrocare Portugal from January 2019 to July 2021 and
compared the year before and after the pandemic.
RESULTS: Of the 14 352 haemodialysis patients included, with a mean age of 68 ± 14
years, 7 161 procedures were analysed.
A total of 4086 endovascular procedures and 3075 surgeries were performed from
January 2019 to July 2021 in the three national vascular access centres of Nephrocare.
Blood flow decrease measured by the blood temperature sensor BTM, (Blood
Temperature Monitor), Fresenius Medical Care, Bad Homburg, Germany was the
most frequent motive of referral to an endovascular procedure before and after the
pandemic (P .221).
During both waves, physical examination and clinical signs were the most affected
motive of referral, followed by a rebound significantly increase (P .058).
Thrombosis remained stable during the lockdown followed by a non-significant
trend to increase.

New vascular access creation was the most frequent motive to send a patient to surgery before and after the pandemic (P .480).
Fistula and prosthesis thrombosis also didn’t significantly increase as a motive of referral to a VAC (P .221 and 1.0 respectively).
Angioplasty without stent followed by thrombolysis was the most frequent types of
endovascular procedures before and during the pandemic without significant
differences (P .430).
Surgical thrombectomy followed by fistula creation were the most frequent types of
surgical procedures before and during the pandemic without significant differences (P .683).
During the first wave, there was a decrease in procedures without possibility to
intervention (P .037) with posterior significant rebound increase.
Although there was a trend to a decrease in intervention, the number and types of
procedures didn’t significantly change before and during the pandemic even after
separating different centres.
Additionally, the number of hospital admissions related to vascular access also
didn’t significantly change (P .368).
CONCLUSION: With the implementation of proactive infection control measures,
it was possible to maintain proper monitoring, surveillance and VA care without
significantly increasing the rate of thrombosis and minimizing related hospital
admissions of haemodialysis patients.