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Impact of use stent with a polyethylene terephthalate micro-net covering on coronary microvascular dysfunction in patients with acute myocardial infarction



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Aims We aimed to investigate whether micro-net on stent could preserve the index of microcirculatory resistance (IMR) after primary percutaneous coronary intervention (PCI) in patients with acute myocardial infarction (AMI).

Methods and results Fifty deux patients with AMI were randomized into two groups: primary PCI with micro-net on stent (MGUARD group, $n = 25$) and primary PCI with any commercially available (DES group, $n = 27$). As the primary endpoint, IMR was measured immediately after primary PCI using a pressure-temperature sensor-tipped coronary wire. The secondary endpoint was the left ventricular ejection fraction (LVEF) at six-month follow-up. The IMR in MGUARD group was significantly lower than in DES group (39.6 ± 26.2 U vs. 75.4 ± 60.5 U, $P = 0.01$). No significant differences in baseline EF ($56.2 \pm 10.3\%$ vs. $54.9 \pm 7.73\%$, $P = 0.7$), however, there were significant differences in follow-up EF ($63.2 \pm 3.8\%$ vs. $54.7 \pm 7.79\%$, $P = 0.001$).

Conclusion A micro-net on stent significantly improved CMVD compared with a traditional DES in primary PCI and appear as a useful technological option to manage the thrombus.

Disclosure of interest The authors declare that they have no competing interest.

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Impact of Covid-19 infection in high-risk coronary patients



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Background Coronary artery disease (CAD) has been recognized as a major determinant of Covid-19 vulnerability and severity. We sought to compare demographic characteristics, clinical presentation, and outcomes for Covid-19 in a large cohort of chronic CAD patients living in Strasbourg's cluster region (Fig. 1).

Methods Follow-up was conducted by telephone interviews performed by cardiologists one month after the start of the French lockdown. The primary outcome was the composite of death or hospitalization related to Covid-19 infection. Secondary endpoints included Covid-19 related death, Covid-19 related hospitalization,

Geographical-distribution-of-COVID-19-cases-in-Strasbourg-region-as-of-21-April-2020-in-the-study-cohort

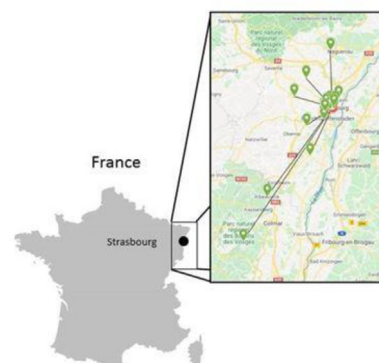


Fig. 1 Distribution of COVID-19 cases in Strasbourg region as of 21 April 2020 in the study cohort.

intensive care unit (ICU) admission, all-cause mortality, cardiovascular (CV) mortality and healthcare compliance.

Results Out of 891 patients included, twenty CAD patients (2.2%) had RT-PCR confirmed Covid-19 infection. Confirmed or suspect cases were evidenced in 48 patients (5.4%). Covid-19 patients showed lower left ventricular ejection fraction, were more frequently obese, less likely to smoke or follow lipid lowering therapy. The composite of death or hospitalization related to Covid-19 was 90%. Mortality rate was 30% among confirmed Covid-19 patients. Drugs' discontinuation rate was low (1.1%) during the confinement. Reticence to consult a healthcare professional occurred in 6.4%. Postponement or cancellation of non-essential medical visits occurred in 15.7% (Table 1).

Table 1 Clinical Outcomes according to Covid-19.

Characteristic	Total (N = 891)	Covid-19 (N = 20)	Non Covid-19 (N = 871)	P
Primary endpoint—no./total no. (%)				
Covid-19 related death or hospitalization	18 (2)	18 (90)	0 (0)	<0.001
Death—no./total no. (%)				
Covid-19 related death	6 (0.7)	6 (30)	0 (0)	<0.001
All cause death since 1st January 2020	22 (2.5)	6 (30)	16 (1.8)	<0.001
Cardiovascular death since 1st January 2020	3 (0.3)	0 (0)	3 (0.3)	0.793
Hospitalization—no./total no. (%)				
Hospitalization in ICU	5 (0.6)	5 (25)	0 (0)	<0.001
All cause hospitalization since 1st January 2020	35 (3.9)	18 (90)	17 (2)	<0.001

Covid-19: Coronavirus disease 2019; ICU: Intensive care unit.

Conclusions Coronary patients from a large French cluster of COVID-19 showed a high risk of Covid-19 infection and worse in-hospital outcomes.

Disclosure of interest The authors declare that they have no competing interest.

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Coronary artery lesions in Kawasaki Disease

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Kawasaki disease (KD) is an acute vasculitis of unknown etiology that frequently occur in childhood and young children and may lead to coronary arteries aneurysm (CAA). Treatment can lower the risk of development of giant aneurysm and is based on the administration of IGIV, aspirin and may need some adjunctive therapies.

Methods In a retrospective study ruled between January 2014 and December 2018, we enrolled 49 children who were diagnosed with complete or incomplete Kawasaki disease in the internal-medicine pediatrics service of Ibn Rochd Hospital.

Results 49 cases of Kawasaki disease were included, of which 59.2 % of boys and 40.8% of girls. Mean age was 31.39 months. 23 cases were diagnosed with complete KD. Oral cavity changes were present in 89.8% of all patients. Bilateral nonexudative conjunctival injection were found in 87.7% of cases. 43.9% of children had cervical lymphadenopathy, while 71.4% of them presented a polymorphous rash. Erythema of the extremities was found in 57.1% of cases. Inflammatory blood test revealed a mean value of 72.80 mm for vs. and 141.3 mg/L for CRP. All the patients underwent echocardiography at admission, revealing 28.5% of coronary arteries dilatation and 6% of coronary artery aneurysm. 46 patients received a single dose of IGIV and anti-inflammatory dose of aspirin with good evolution. 3 patients received a secondary dose of IGIV, and one of them required administration of anakinra. 72 h was the average time for defervescence. The vs. was positively correlated to coronary artery abnormalities in our series with a p value of 0.022. Control echocardiography was ruled out 6 weeks after admission, and revealed that 37.5% of coronary artery abnormalities disappeared, 43.5% regressed, 6.5% remained stable and 12.5% developed giant aneurysms.

Conclusion Despite KD remains a poorly understood pathology, a rapid treatment and follow up can improve the prognosis and lower associated complications.

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Activity of a catheterization laboratory in Tunisia: A comparative study before and during confinement (COVID-19)

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Introduction The COVID-19 pandemic has significantly impacted the Tunisian healthcare system. To reduce the risk of contracting or transmitting COVID-19, the Centers for Disease Control and Prevention recommended deferral of elective cardiac procedures, including coronary angiography (CA) and percutaneous coronary intervention (PCI) for stable coronary artery disease (CAD).

Purpose However anecdotal reports suggest also a decline in the number of patients consulting for an unstable CAD and therefore in the activity of the catheterization laboratory.

Methods To confirm this finding, we conducted a study comparing the number of patients who consulted for an unstable CAD and who benefited from a CA associated or not with a PCI during the confinement period (CP) (from March 15, 2020 to April 30, 2020) and just 6 weeks before (from February 1, 2020 to March 15, 2020) in Mongi Slim La Marsa University Hospital Center.

Results Our analysis showed that out of 183 patients with unstable CAD, 127 (69,4%) and 56 (30,6%) consulted and were urgently treated in our catheterization laboratory respectively before and during the confinement period thus an estimated 40% reduction in our daily activity (Fig. 1).

Conclusion Potential etiologies for the decrease in unstable patients with CAD may be related to the avoidance of medical care due to social distancing or concerns of contracting COVID-19 in the hospital and ST-Segment elevation myocardial infarction misdiagnosis. As long as the pandemic continues, we highly recommend to follow this signal and investigate its causes.

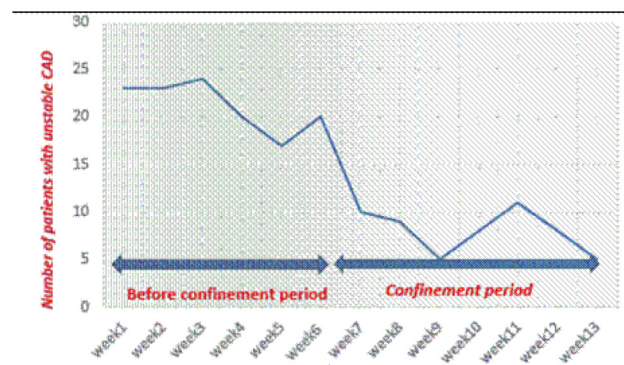


Fig. 1 Reduction of the number of patients with unstable coronary artery disease and the activity of the cath lab.

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