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## 01 – Coronary artery disease

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### Care management and 90-day mortality in patients hospitalized for myocardial infarction and COVID-19 in France



C. Grave<sup>1,\*</sup>, A. Gabet<sup>1</sup>, J.P. Empana<sup>2</sup>, E. Puymirat<sup>3</sup>, P. Tuppin<sup>4</sup>, N. Danchin<sup>3</sup>, V. Olié<sup>1</sup>

<sup>1</sup> Santé publique France, Saint-Maurice, France

<sup>2</sup> UMR-S970, Paris Cardiovascular Research Center, Université Paris Descartes, Inserm, Paris, France

<sup>3</sup> AP-HP, HEGP, Université Paris-Descartes, Paris, France

<sup>4</sup> Caisse nationale d'assurance maladie, Paris, France

\* Corresponding author.

E-mail address: [clemence.grave@santepubliquefrance.fr](mailto:clemence.grave@santepubliquefrance.fr) (C. Grave)

**Background** Concomitant COVID-19 in patients with myocardial infarction (MI) may lead to difficulties in acute care management and may impair prognosis. To date, studies have involved a limited number of patients.

**Purpose** To estimate and compare the characteristics, care management and 90-day outcomes of patients hospitalized for MI who didn't have Covid-19, with those having concomitant hospital diagnosis of Covid-19 from the French National Health Data System, an exhaustive and nationwide database.

**Methods** All patients hospitalised for MI in France between 30 December 2019 and 4 October 2020 were included. Patients with a previous hospitalization with Covid-19 were excluded ( $n = 135$ ). Patients' characteristics were compared according to Covid-19 status. 90-day mortality rates and follow-up outcomes were estimated and adjusted on age, sex and comorbidities.

**Results** Among the 55,389 patients hospitalized for MI, 329 had concomitant Covid-19 (21% asymptomatic). MI patients with concomitant Covid-19 were more comorbid than patients without Covid-19. They had longer hospital stays, more admissions to resuscitation unit, underwent less percutaneous coronary intervention, and discharged more often to rehabilitation units than patients without Covid-19. The in-hospital and 90-day-out-of-hospital mortality rates of MI patients with Covid-19 were 11.9% and 6.2%, respectively, compared to 3.5% and 2.8% in MI patients without Covid-19. The risk of in-hospital and out-of-hospital death remained increased

after adjustment on comorbidities ( $OR_{aj} \text{ in-hosp} = 3.31 [2.32;4.72]$ ,  $OR_{aj} \text{ out-of-hosp} = 1.79 [1.02;3.15]$ ).

**Conclusions** The prognosis of patients hospitalized for MI who had concomitant Covid-19 was impaired in the short term but also in the medium term. These results underline the need of an urgent protection of the population at cardiovascular risk from Covid-19, as well as a systematized and rapid management despite the pandemic context, and then a close follow-up of these patients.

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

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### Prevalence, determinants and prognostic value of coronary artery calcium score in asymptomatic patients with diabetes: A systematic review and meta-analysis



M. Sow<sup>\*</sup>, K. Ba, R. Ayari, J. Magne, V. Aboyans

Cardiologie, CHU Dupuytren de Limoges, Limoges, France

\* Corresponding author.

E-mail address: [mamadouadama403@gmail.com](mailto:mamadouadama403@gmail.com) (M. Sow)

**Background** Coronary artery calcium score (CACs) is evidenced as one of the most effective markers to refine cardiovascular (CV) risk stratification in general population. However, in asymptomatic patients with diabetes, guidelines present mild recommendations for its use, as its prognostic interest require further evidence, especially in different subsets. Thus, we carried-out a systematic review and meta-analysis to address the prevalence of high CACS, its determinants and prognostic value in asymptomatic patients with diabetes, with a special focus on the evidence on its interest in different sex and ethnic groups.

**Methods** We performed a systematic search in PubMed, Embase and Science Direct for studies presenting original data on CACS, and reporting its prevalence, determinants and prognosis in patients with diabetes. Using random effects models, we calculated pooled odds ratios (OR) for CACS determinants and prognostic value on all-cause mortality and/or fatal and non-fatal CV events in different categories.

**Results** We included 23 studies. Female sex and black ethnicity presented the lowest prevalence of  $CACS > 0$ . Age, male sex, non-black ethnicity and diabetes duration were identified as independent risk factors for high CACS. Among the 10 studies ( $n = 110,396$  person-years) that assessed the CACS prognosis, 1626 deaths and CV events were analysed. The pooled OR for all-cause