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159

Prevalence and prognosis of iron deficiency in acute myocardial infarction



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Background Coronary artery disease (CAD) and iron deficiency (ID) are two common pathologies, but the potential role of iron in the pathophysiology of CAD through inflammation and atherosclerosis is still being debated.

Objective To evaluate the prevalence and prognosis of ID in CAD patient after acute myocardial infarction (AMI).

Method Patients hospitalised for AMI in two cardiology centres were screened for ID in the first 48 hours after admittance. ID was defined as transferring saturation less than 20% (T-SAT < 20%). All-cause mortality 6 months after MI was the primary end-point. GRACE and CRUSADE scores, left ventricular ejection fraction (LVEF), severity of CAD (defined by TIMI and SYNTAX angiographic scores), length of hospital stay (LOS), increased C-reactive protein (CRP), troponin IC, and natriuretic peptides were the secondary endpoints.

Results Half (49%) of the 145 patients included were diagnosed with ID (average age 66.5 ± 13.4 years, 30% were women and 30% over 75 years- old). Six months overall survival of ID patients was impaired: 83.1% vs. 100%, in non-ID patients ($P < 0.001$). On admittance, ID patients also had increased GRACE and CRUSADE scores ($P < 0.0001$ and < 0.01 , respectively); lower LVEF ($P < 0.01$); more frequent coronary occlusions ($P < 0.004$); higher SYNTAX score ($P < 0.0001$); more common multi-vessel involvement ($P < 0.007$); LOS often over one week ($P < 0.001$); more severe inflammation ($P < 0.0001$); higher natriuretic peptides levels ($P < 0.03$) (Fig. 1).

Conclusion ID is highly prevalent among patients hospitalised for MI and associated with higher mortality at 6 months and greater severity of CAD. Whether its presence impacts long-term survival needs further studies.

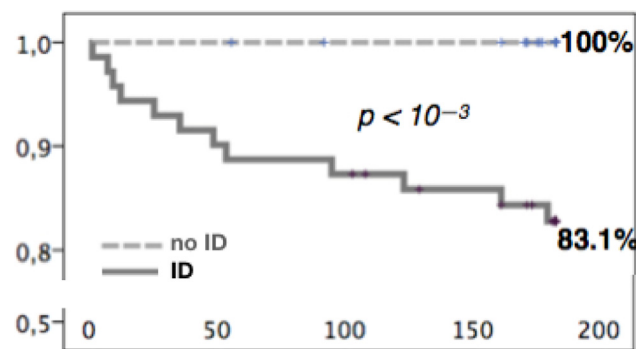


Fig. 1 Overall survival 180 days after discharge for acute myocardial infarction according to iron status (ID: iron deficiency).

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409

Myocardial infarction rates overview during COVID-19 pandemic In France: Results of the MODIF registry



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Background The emergence of Coronavirus disease 2019 (COVID-19) has evolved into a global pandemic. Systems of care have been reorganized worldwide in an effort to preserve hospital bed capacity. In France, from March 17 to May 11 2020, government imposed a complete lockdown on the whole population. Only urgent cardiac procedures have been ensured such as ST-elevation myocardial infarction (STEMI) revascularization. Some previously published studies suggest a reduction of admission for STEMI in many countries. Nevertheless, strong evidences and data across different French regions that have been affected variously by the outbreak are still lacking.

Purpose We aimed to describe the incidence rates and characteristics of patients presenting with STEMI in order to evaluate the impact of the COVID-19 outbreak on STEMI care in France covering the lockdown period compared to same period one year ago.

Methods We performed a retrospective multicenter registry across 60 French interventional cardiology centers including all consecutive STEMI patients referred for urgent revascularization in the heart catheterization laboratory between two periods: March 1st to May 31th 2020 compared with March 1st to May 31th 2019. Comprehensive data, including clinical, biological, COVID status and angiographic variables including time taken for care were recorded at admission. The primary outcome was a composite of invasive mechanical ventilation support or in-hospital death. The secondary outcome was the occurrence of myocardial infarction related complications during hospitalization. Enrollement is not complete at the time of the abstract submission.

Conclusion This data collection between two periods with and without COVID19 will gave insights for a complete descriptive cartography of STEMI patients among different French regions which have been variously impacted by the outbreak.

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