

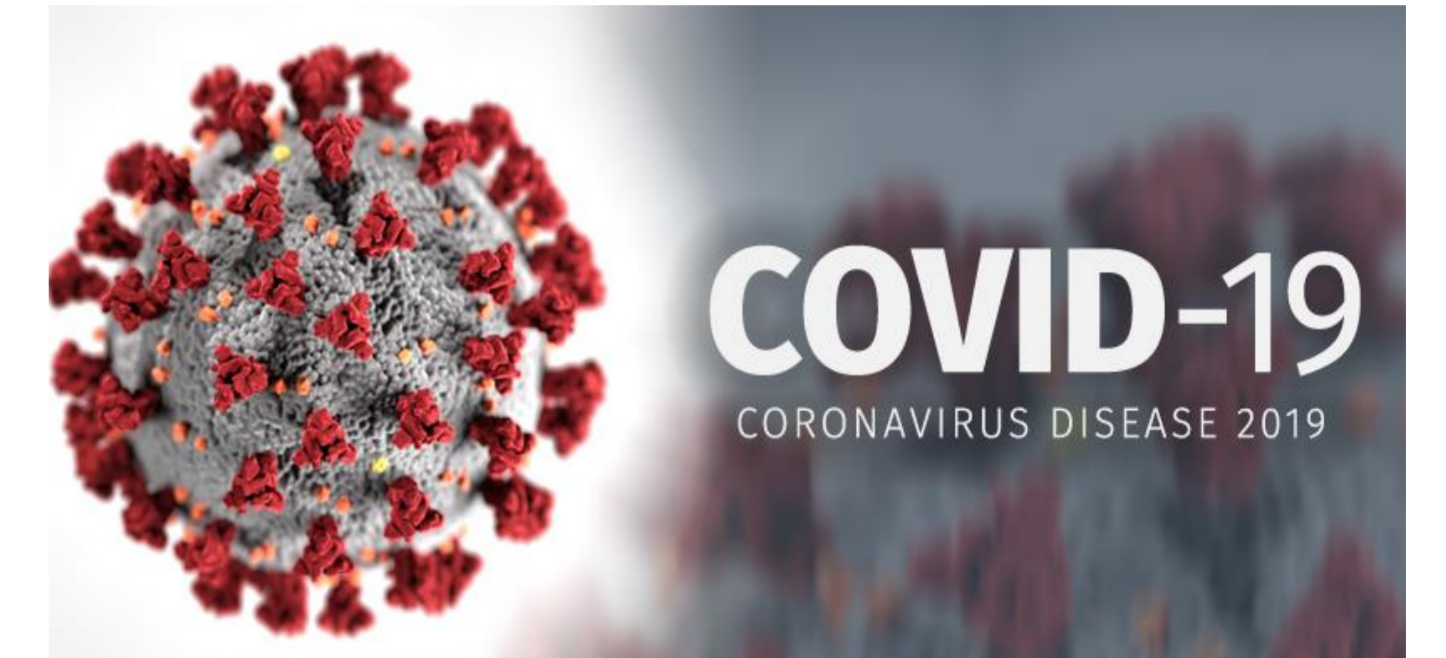
HOW DOES COVID-19 PANDEMIA AFFECT BELGIAN MYELOMA PATIENTS?

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Introduction

The worldwide COVID-19 pandemic represents an unprecedented crisis that affects the entire medical community, and is expected to be a devastating infection in many patients with hematological disorders. So far, no data are available in multiple myeloma (MM), a disease characterized by a severe humoral and cellular immune deficiency that exposed patients to infectious complications.



Method and Results

In order to assess the impact of COVID-19 in the Belgian MM community, we collected data on the presentation and outcome of the disease by sending questionnaires to Belgian hematologists in 30 different centers. As of April 12th, 2020, 20 symptomatic MM patients were diagnosed with COVID-19 (positive RT-PCR nasopharyngeal swab), in 12 out of 20 hospitals who answered the survey.

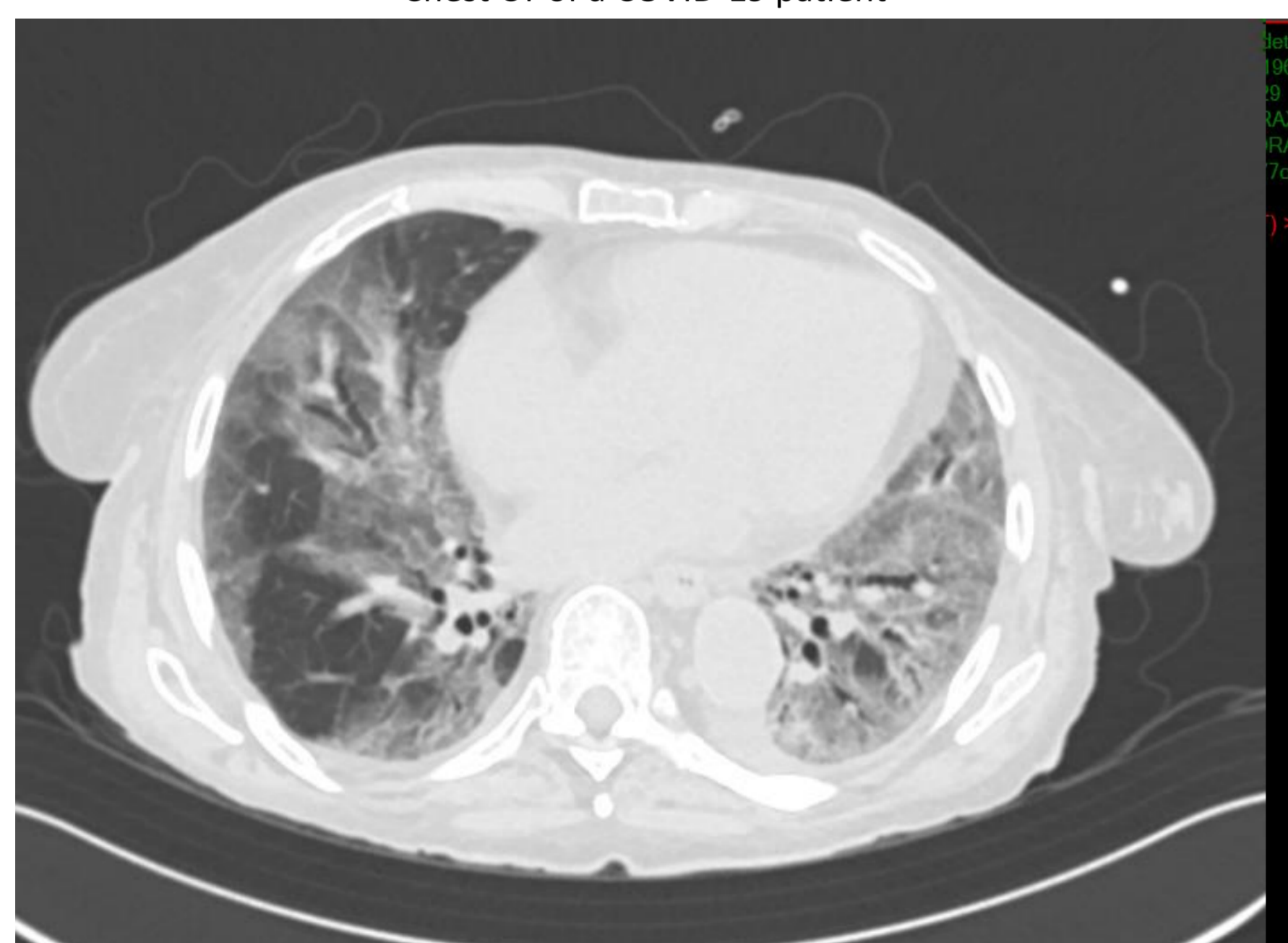
Median age was 68 years (range, 57-83). Twelve patients were male, 8 were of African origin (5 North-Africans, 3 Blacks), 14 suffered from cardiovascular or renal comorbidities, 5 from renal diabetes, 3 from another neoplasm (lung or prostate carcinoma, myelodysplasia). Sixteen patients were under therapy, mainly an IMiD-based combination (n=13, 81%), and 8 had a prior history of ASCT within a median of 7 years. Immunoparesis was noted in 6 (30%). Grade 3-4 lymphopenia was common, related to corticosteroids administration.

The most common initial symptoms were fever (n=13, 65%), cough (n=11, 55%), dyspnea (n=10, 50%) and hypoxemia (SaO₂<93%) (n=9, 45%). Diarrhea, skin joint or neurological problems were uncommon. Clinical status¹ was considered as mild in 5 (25%), severe in 13 (65%) and critical in 2 (10%), with lung infiltrates reported on chest-CT and X-ray in 16 (80%) (images 1 and 2), multiple organ failure and coma in 1 (5%). Eleven patients presented a grade 4 eosinopenia (64%).

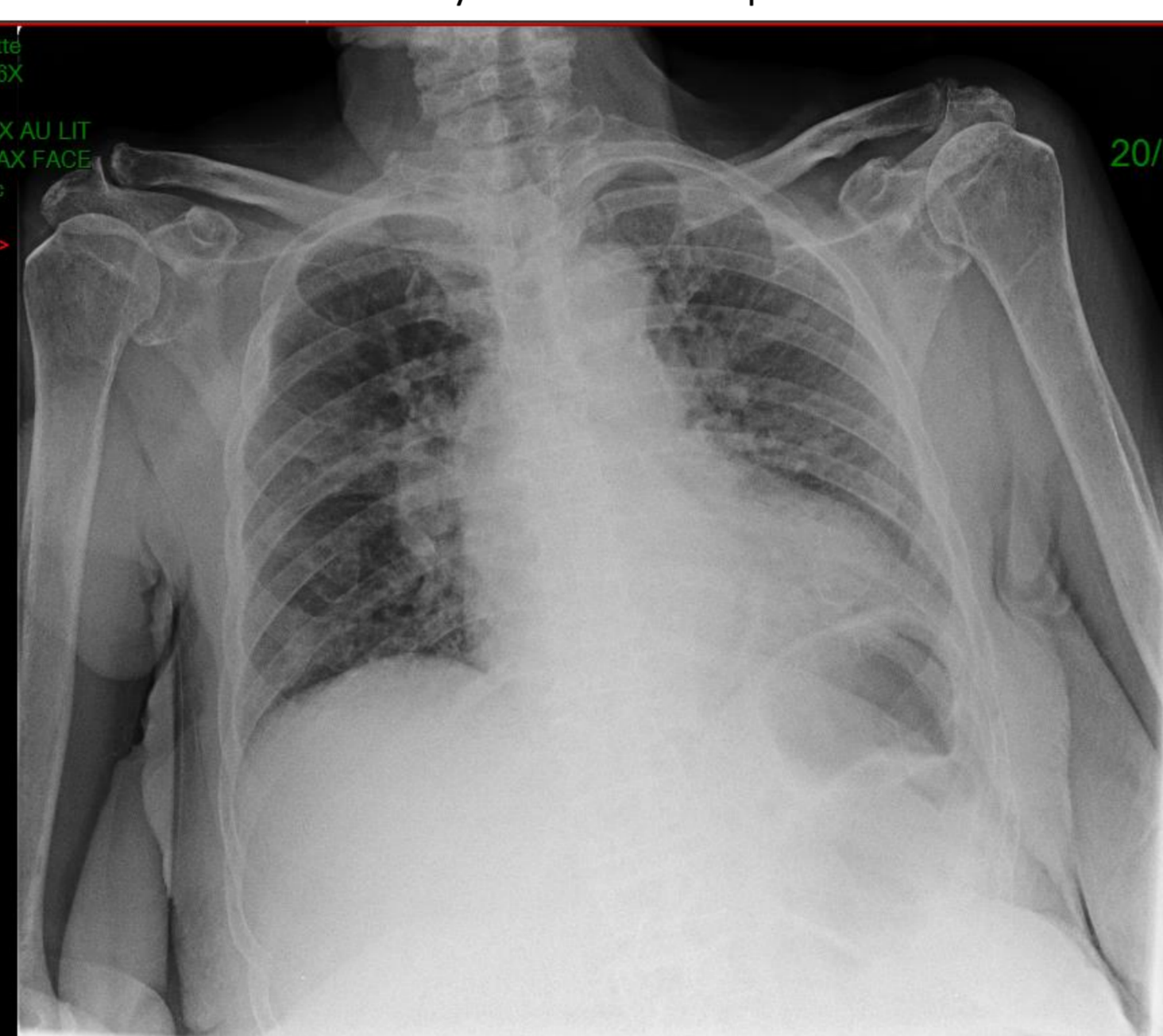
Hospitalization was required in 18 patients for a median of 12 days (range, 3-32), 5 in intensive care units with 2 needing mechanical ventilation. Most patients required O₂ administration, in addition to hydroxychloroquine in 14 (70%) and antibiotics in 13 (65%). No patients received anti-IL6 or other antiviral therapy. No thromboembolic complications were reported, but most patients were under prophylactic low-molecular-weight heparin regarding IMiD-based therapy.

Adverse outcome occurred in 7 patients (median age 77, range 58-83). All were under dexamethasone (median monthly dose, 80mg), 5 in progressive disease, all suffered from either a cardiovascular comorbidity or a secondary cancer. In addition, 5 were of African origin. We failed to identify any impact of Ig isotype, ISS stage, presence of immunoparesis, number of previous lines of therapy including prior ASCT. However, in comparison with the 'survivors' population, the time from MM diagnosis to COVID-19 was longer in this group, but not statistically significant.

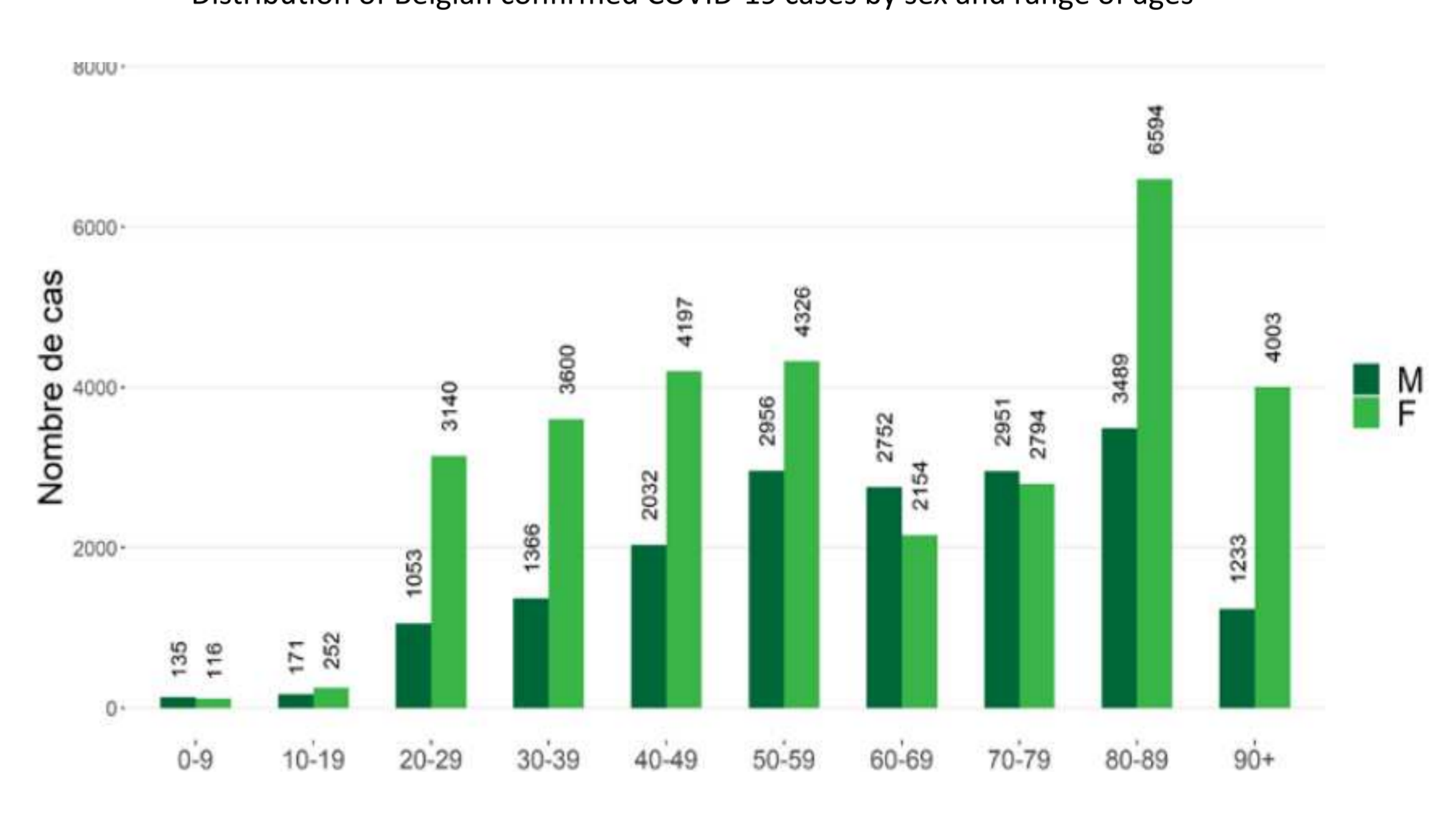
Chest CT of a COVID-19 patient



Chest x-rays of a COVID-19 patient



Distribution of Belgian confirmed COVID-19 cases by sex and range of ages



www.sciensano.be - data from the 1st of May 2020

Conclusion

Our limited experience of COVID-19 emphasized the severity of this condition in MM patients, with a high mortality incidence (35%). However, based on these preliminary data, and in regards to the fact that MM affects 800 new cases each year in Belgium and that 50,000 patients were diagnosed with COVID-19 in our country so far (Graph 1), this complication remains very rare. Age, comorbidities, disease status and ethnicity may be relevant. Ethnic differences in angiotensin converting enzyme-2 expression might play a role, as well as socioeconomic, cultural, or other genetic predisposition². Our data support also the need to reduce the dexamethasone dosage, as proposed by others^{3,4}. Grade 4 eosinopenia is common, a possible landmark feature of COVID-19⁵. Further investigations are mandatory in order to assess the impact of this new viral infection and its outcome on MM.

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