

Letters to the Editor

Cardiovascular Collateral Damages at the Time of COVID-19



To the Editor:

On March 13th, 2020, the Québec provincial government announced an extended lockdown over all sectors of the economy to face the COVID-19 pandemic.¹ Supportive programs were instituted to insure implementation of effective social-distancing measures.² Hospitals were asked to postpone elective and semielective procedures to spare personal protective equipment.³ The general population respected the request for confinement and stayed home.

This directive had a direct impact on cardiovascular disease. The provincial tertiary cardiovascular network was completely reorganized.³ All but 1 large cardiovascular centre in Montréal were shut down. Cardiovascular patients from the southwestern part of the province were all transferred to this centre, which led to delays in care for 13 patients.³ Some patients even died in the hospital while awaiting treatment. In the northeastern region, the only quaternary centre left open was selected as a phase 1 COVID centre. Across the province, all but emergent and urgent interventions were postponed.³ Some patients eventually underwent surgery after significant deterioration of their clinical conditions, sharply increasing their surgical risk.

An even more striking consequence of the COVID-19 lockdown was the consultation delay of the population. It translated in a prevalence rise of mechanical complications of myocardial infarct. In 1 month, 13 postinfarct ventricular septal defects, mitral papillary muscle ruptures, and contained ventricular free-wall ruptures were noted. This is close to the annual number seen in the province in 1 year (provincial database: 19 mechanical complication per year) (Table 1). Three patients required extracorporeal membrane oxygenation awaiting heart transplant (provincial database: 3 to 5 per year). Twenty-four had ventricular functional loss and will remain in heart failure for life. Nine died before any intervention could be undertaken, as treatment had become futile. The mean age of these patients was 65 years, and 70% were younger than 70 years. During that period, patients consulted on average 6 days after the initiation of symptoms. Ninety-six percent

hesitated to seek medical assistance from fear of getting infected with COVID-19 in hospital.

These data were gathered as an unstructured survey among cardiac surgeons and cardiologists of the province of Québec. They represent an underestimation of the cardiovascular collateral damages of the first-wave COVID-19 pandemic within the province. The great majority of patients dying with COVID-19 are elderly, but looking only at the mortality rates among age strata is misleading. The direct, indirect, and collateral health burden of COVID-19 affects all patient subgroups. As the disease is far from being eradicated, the cardiovascular community and the whole population should be aware of such complications. Cardiovascular care should be protected and maintained during the pandemic, and citizens should be exhorted to seek medical attention as quickly as they would under normal circumstances.

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References

1. Canadian Broadcasting Channel. COVID-19, <https://www.cbc.ca/news/canada/montreal/covid-19-coronavirus-montreal-march-23-1.5506434>. Accessed May 16, 2020.
2. Canadian Broadcasting Channel. COVID-19, <https://www.cbc.ca/news/canada/montreal/montreal-covid-19-response-1.5503336>. Accessed May 16, 2020.
3. Ministère de la Santé et des Services Sociaux (Gouvernement du Québec). Bloc opératoire, <https://www.msss.gouv.qc.ca/professionnels/covid-19/directives-cliniques-aux-professionnels-et-au-reseau/bloc-operatoire/#anciennes>. Accessed May 16, 2020.

Table 1. Number of mechanical complications of myocardial infarction in the province of Québec

	Ventricular rupture	Postinfarct ventricular septal defect	Mitral rupture	Total
COVID-19 lockdown	1	6	6	13
Provincial annual rate	5	3	11	19