

### Interventional cardiology in times of COVID-19: impact on a tertiary centre

A. Azul Freitas, C. Ferreira, S. Martinho, V. Goncalves, J. Almeida, J. Rosa, G. Campos, E. Jorge, L. Goncalves

University Hospitals of Coimbra, Cardiology, Coimbra, Portugal

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**Introduction:** Cardiovascular diseases are the leading cause of death worldwide and the pandemic caused by coronavirus disease 2019 (COVID-19) has forced profound changes in the care of patients with cardiac conditions. In Portugal, an increase in mortality beyond that attributed solely to COVID-19 was observed. We aimed to realize how COVID-19 has changed the activity of our Interventional Cardiology Unit.

**Methods:** We retrospectively assessed all patients submitted to any interventional procedure in 2019 and 2020 in our hospital. A total of 7621 patients and 9163 procedures were evaluated. The mean weekly numbers of coronarography, angioplasty, right heart catheterization and structural heart intervention during 2019 were assessed and were compared with the first COVID-19 wave (comprising March and April 2020) and the second COVID-19 wave (including the time period from October to end of December 2020).

**Results:** Mean age was 65.2±16.6 years with 72% being male. In the first COVID-19 wave there was a significant reduction in the mean weekly

numbers of all procedures, with a 64% decline in coronarographies (30.9±29.3 vs 87.2±12.9, P<0.001), 48% in angiographies (15.7±10.9 vs 30.2±5.7, P=0.004), 51% in right heart catheterizations (5.3±5.9 vs 10.9±4.5, P=0.002) and 57% in structural heart interventions (1.1±1.9 vs 2.6±2, P=0.044). Although there was an evident recovery in activity (figure 1), comparing to 2019, the second wave also showed a significant lower number of procedures, with 24% fewer coronarographies (66.6±20.6 vs 87.2±12.9, P=0.003) and 13% fewer angiographies (26.4±7.6 vs 30.2±5.7, P=0.004). Contrariwise, in the second wave there was no difference in the number of right heart catheterizations (7.3±6.1 vs 10.9±4.5, P=0.055) or structural heart interventions (1.6±1.6 vs 2.6±2, P=0.106).

**Conclusions:** In our Interventional Cardiology Unit, COVID-19 led to a significant reduction of procedures in the first and second pandemic waves. The effect on the increase in morbidity and mortality has yet to be determined. Health authorities should focus attention in defining measures to amend the consequences of this documented activity reduction.

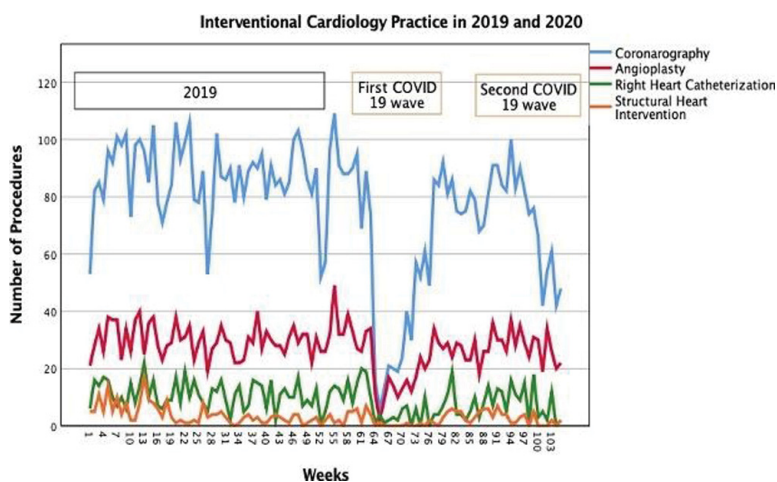


Figure 1