



# Effects of the first and second wave of the COVID-19 pandemic on patients with colorectal cancer: what has really changed in the outcomes?

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Dear Editor

The COVID-19 pandemic has had a massive impact on the organization of the Italian National Health System. To counter the pandemic, a redistribution of financial resources and a deprioritization of non-emergency medical services, including diagnostic tests and elective specialist surgery, have been implemented.

For patients with cancer, delays in diagnosis and surgical treatments can result in disease progression. Population-based modelling studies have predicted a significant negative impact on survival rates owing to delays in diagnostics and surgical treatment. Therefore, interventions to mitigate the indirect effects of the COVID-19 pandemic on patients with cancer have been proposed<sup>1–3</sup>.

Italy has been severely affected by Sars-CoV-2. The epidemic pattern hit predominantly northern Italy in the first wave in early 2020, whereas the second wave, from the late summer until the end of 2020, involved the entire country. Five months after the end of the second wave and an almost total resumption of surgical activity, it has been possible to investigate the true impact of 1 year of the COVID-19 pandemic on patients with colorectal cancer at the authors’ institution. A comparative analysis was performed of patients who underwent surgery for colorectal cancer 5 months before the beginning of the pandemic (October 2019 to February 2020; period 1) versus those who underwent surgery

5 months after the end of the second wave (January 2021 to May 2021; period 2) (Fig. 1).

In period 2, there was an increase in T4 tumours with higher preoperative levels of carcinoembryonic antigen and carbohydrate antigen 19-9 (Table 1). These tumours have required a more extensive lymph node dissection, with a larger number of lymph nodes retrieved. This is possibly due to the reduced number of colonoscopies performed during the lockdown and patients’ fear of potential infections in the hospital setting. Screening programmes have been effectively restored after the second wave and a shorter time from the onset of symptoms to colonoscopy has been observed. It is likely that the presence of more severe symptoms may have contributed to a more rapid diagnosis.

The authors are starting to quantify the effects of the pandemic on patients with colorectal cancer after the end of the first two waves. However, these preliminary findings do not take into account the role of the third wave, the emerging spread of variants, and the long-term cancer-specific outcomes. Therefore, the global impact of delay in the diagnosis and treatment of colorectal cancer in multi-institutional settings requires urgent attention in order to improve healthcare planning.

Disclosures. The authors declare no conflict of interest.

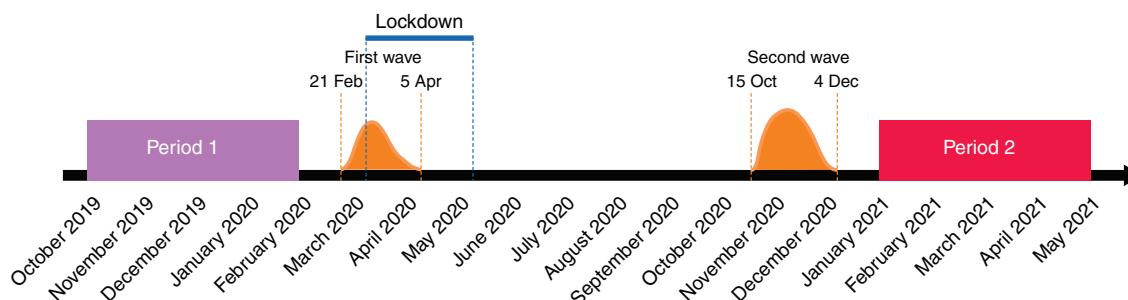


Fig. 1 Timeline of COVID-19 pandemic in Italy, including the two study periods

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Table 1 Clinicopathological data from periods 1 and 2

	Period 1 (n = 41)	Period 2 (n = 43)	P <sup>†</sup>
Time from symptom onset to colonoscopy (days)*	189.7(171.3)	98.4(92.7)	0.003 <sup>‡</sup>
Diagnosis in setting of screening programme	16	18	0.966
CEA (ng/ml)*	7.1(9.6)	21.2(40.7)	0.034 <sup>‡</sup>
CA19-9 (units/ml)*	21.3(27.1)	85.6(178.8)	0.026 <sup>‡</sup>
<b>Surgical procedure</b>			
Right colectomy	17	13	0.397
Left colectomy	12	19	0.234
Anterior resection	12	8	0.373
Ostomy	0	3	0.257
<b>T4</b>	5	14	0.049
<b>N+</b>	13	20	0.244
<b>Total no. of lymph nodes retrieved*</b>	20.6(14.5)	29.5(18.8)	0.018 <sup>‡</sup>
<b>M1</b>	6	11	0.329

\*Values are mean(s.d.). CA19-9, carbohydrate antigen 19-9, <sup>†</sup>Chi-square test, except, <sup>‡</sup>Student's test.

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