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## **BEING AN ITALIAN SURGEON AT THE TIME OF COVID-19: CONCERNS AND HOPES. VIEWPOINT**

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Since the first case on February 21<sup>st</sup>, the spread of COVID-19 in Italy has been unstoppable [1]. The growing number of infected people and the increase in deaths has forced the medical community to seek quick solutions. At this precise moment, being a doctor, and a surgeon in particular, is somewhat complex. One's passion for the profession, the will to help others, often clashes with the fear of becoming ill. Since the beginning of the epidemic, more than a hundred colleagues have so far lost their lives in Italy simply doing their jobs and fighting against this invisible enemy. While in many Italian hospitals the working conditions are optimal and the workflow has not been compromised very much, in other centers the working conditions are critical. Many doctors are working without adequate protection, without the necessary equipment and are living with the constant fear of getting sick. In the case of general surgeons, we are faced with a considerable dilemma: how are

we to treat patients and safeguard their health at the same time? When and how are we to operate on cancer patients? How can we protect ourselves?

In the absence of a clear and shared protocol, each hospital has tried to draw up a personal decision algorithm that should take account of the need to treat COVID-19 patients who need emergency surgery and at the same time operate on those who require non-deferred surgery. The idea was born from the need to better manage economic and human resources, directing them towards departments that are under more pressure, such as infectious disease and pneumonology departments, or intensive or sub-intensive care units.

Thus, we analyzed the work-up of each cancer patient candidate for surgery, establishing a risk profile based on the location and staging of the tumor, the response to neoadjuvant treatment, the comorbidities of each patient and the patient's willingness.

Finally, by consulting each individual patient, we made a sincere, informed and joint choice, analyzing the risks and benefits, and the timing of each procedure was tailored according to the overall status of the patient.

Our surgical protocol requires all elective surgery for benign pathology to be cancelled, and allows interventions in the case of non-urgent oncological pathology to be rescheduled. These patients underwent a longer preoperative work-up or longer course of neoadjuvant therapy if it was indicated.

Rapidly growing or no-responsive tumors that involved jaundice, bleeding and stenosis were considered urgent. In the case of patients fit for surgery with a local disease, but who were waiting for the preoperative study (histology, PET-scan, etc.) to be completed, we performed the definitive surgery sooner, adopting a shorter course of neoadjuvant therapy or omitting this if deemed possible. Considering the risk associated with a long hospital stay, we approached all cases by performing minimally invasive surgery in order to increase the likelihood of early discharge. Since 1<sup>st</sup> March, when the institutional protocol was adopted, we have operated on twenty patients, ten of whom had a pre-operative diagnosis of COVID-19. In the latter case, the diagnosis was made by analyzing the results of a computed tomography (CT) scan of the chest, and confirmed by swab test. These ten patients received antiviral ritonavir-based and vitamin D therapy before the operation. Preoperative respiratory support with high-flow supplemental oxygen was needed in all cases before the operation. Five patients had colon cancer, three rectal cancer, one pancreatic and one gastric cancer.

All of them underwent minimally invasive surgery, during which we had the foresight to apply low intra-abdominal pressure to lower the risk of contamination. A low voltage of energy was likewise used to avoid a foggy effect on the camera lens, thanks to which the camera did not need to be removed.

A R0 resection rate was achieved in all cases. After the operation all patients were admitted to the intensive care unit where the mean length of stay was 4 days. Two patients out of the nine experienced postoperative surgical complica-

tions, one had a surgical site infection, and another had an abdominal collection treated conservatively by percutaneous drainage. The rate of medical complications was 30%. The mean length of stay in hospital was 10 days. None of the operating room staff contracted COVID-19. In conclusion, we believe that staff should aim to use hospital resources judiciously and rationally. A tailored approach based on communication and the sharing of the therapeutic process with the patient's family seems to be paramount at this difficult time.

## **Bibliography**

1. Livingston E, Bucher K. *Coronavirus Disease 2019 (COVID-19) in Italy*. JAMA. 2020; 232 (14): 1335. doi:10.1001/jama.2020.4344.

