



# The Importance of Awareness of Coronavirus Disease 2019 Clinical Syndrome by Plastic Surgeons

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Sir,

As of April 5, 2020, >120,000 cases of coronavirus disease 2019 (COVID-19) and 15,362 deaths have been reported in Italy.

The median age of patients is between 49 and 56 years.<sup>1-3</sup> The incubation period of this virus has been reported to be 5.2 days,<sup>4</sup> although there is suggestion that it may be as long as 14 days. The clinical syndrome is non-specific, which makes it clinically indistinguishable from other viral respiratory illnesses. Some patients may even be asymptomatic.<sup>5</sup>

Due to low specificity, laboratory tests may not be useful in establishing the diagnosis of COVID-19; however, they can help appraise the clinical condition of a patient and may be indicative of COVID-19, resulting in further testing with polymerase chain reaction and radiologic studies.<sup>6</sup> Some laboratory findings have been related to severe 2019 novel coronavirus pneumonia and may require admission to intensive care unit or mechanical ventilation or may lead to death. These findings include higher body temperature, leukocytosis, accompanied by an increase in neutrophil count and neutrophil percentage, and decrease in lymphocyte count and lymphocyte percentage. Lymphopenia was more severe and common in patients with severe 2019 novel coronavirus pneumonia,<sup>6</sup> and it was probably caused by the translocation of lymphocyte from peripheral blood to lungs.<sup>4</sup> An increase in D-dimer level was also found, which reflected a hypercoagulable state that might promote pulmonary microthrombosis, increased  $\alpha$ -hydroxybutyrate dehydrogenase activity, lactate dehydrogenase activity, and creatine kinase activity, which were usually used to evaluate the degree of myocardial injury.

Although most cases seem to be mild, all patients admitted to the hospital have pneumonia with infiltrates on chest x-ray and ground glass opacities on chest computed tomography.<sup>6</sup>

The knowledge of symptoms, laboratory findings, and imaging aspects is of paramount importance for all

physicians, including ones from diverse backgrounds as surgeons, who are called to face COVID-19 disease in their daily practice as well. As far as the plastic and reconstructive surgery field is concerned, to date, no certain direct impact of COVID-19 on body soft tissues, including mammary, has been reported. However, plastic and reconstructive surgeons can be involved in the evaluation of patients presenting with fever without other symptoms of COVID-19, in their postoperative period. The background of fever due to breast oncologic surgery and other systemic symptoms may initially overlap the ones typical of COVID-19; an immediate differentiation could prompt the treatment and avoid the shortcoming of a missed or delayed COVID-19 diagnosis.

In this regard, plastic and reconstructive surgery, like any other surgery, represents an important stress for our body, which responds by releasing chemical mediators that cause generalized inflammation. Some of these are responsible for a slight increase in temperature; therefore, a fever of 37.3°C–37.4°C in the first postoperative days is a paraphysiologic condition that does not require any type of treatment, but only monitoring.

Moreover, in breast surgery, there are other causes of fever, due to complications of the oncologic resection or of the reconstructive procedure. In the first days after the surgery, a clinical picture characterized by fever, swelling, hot and flushed breast skin can occur. In this case, a clinical and an US evaluation is important to find the eventual presence of a blood or fluid collection. If there is a suspicion of a hematoma, which is usually accompanied by a decrease in hemoglobin levels, the collection must be drained. On the other hand, if there is the suspicion of a seroma, it is necessary to aspirate the liquid and analyze it. If the seroma does not resolve with the aspiration and antibiotic therapy, it must be removed by surgery.

Laboratory findings may be the driver of the diagnostic workup in this setting. As described previously, lymphopenia (70%), prolonged prothrombin time (58%), and elevated lactate dehydrogenase (40%) may be indicative of COVID-19, although they are not specific. On the other side, in patients undergoing breast surgery, these laboratory findings are not altered or are not investigated because the diagnosis is mainly clinical. However, it is always important to perform an evaluation of the hemoglobin levels in case of suspected hematoma and a laboratory analysis of the aspirate in case of suspected seroma.

In conclusion, the possible overlap of COVID-19 clinical syndrome with different postsurgical conditions should be recognized and deserves a proper investigation since the very beginning of case presentation. The rapid diagnosis and isolation of COVID-19 cases—recognized to be public health interventions slowing the spread<sup>7</sup>—rely

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on the prompt preparation and knowledge of all physicians to confront this unprecedented pandemic.

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#### DISCLOSURE

*The authors have no financial interest to declare in relation to the content of this article.*

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