

## A multifaceted virus. Non-reducible and strangulated effects of COVID-19

### To the Editor:

We have read with great interest the article, published by Rausei et al.,<sup>1</sup> titled “Dramatic decrease of surgical emergencies during COVID-19 outbreak.” The main finding of the study was that emergency surgical admissions and surgical operations significantly decreased during the pandemic, while the authors tried to elucidate the possible explanations behind this situation. Our experience comes from a tertiary university hospital in Greece, which covers a population of 1.5 million.

In agreement with previous reported studies, we have seriously noticed a significant reduction of elective surgical cases during the pandemic, as far as benign and malignant surgical pathologies are concerned.<sup>2,3</sup> However, our collected data about emergency surgical cases are different, when compared with the lowering in numbers, which is reported in the aforementioned article. Are we seeing fewer or even the same number of patients, although sicker ones? Is there a major change in clinical practice during this era that needs to be highlighted?

Interestingly enough, in contrast with the findings reported by Rausei et al.,<sup>1</sup> we have observed that our number of emergency operations performed has been unaffected by COVID-19 era (494 vs 471),

when compared between same periods before and after the outbreak of coronavirus. Nevertheless, a result that needs to be highlighted is that patients with benign entities, like hernias of any type, present to the hospital with delayed onset of symptoms, when compared with those admitted before the pandemic, probably because of their fear of getting infected with the novel coronavirus.

Herein, we report our numbers for nonreducible and strangulated hernias (inguinal, epigastric, and incisional), highlighting the statistically significant difference in numbers between patients presented with non-reducible and strangulated inguinal and incisional hernias, before and after COVID (Table 1). In agreement with this, our data show that not only hospital stay but also operation duration has increased, a fact that reflects the severity of the clinical presentation of patients in the COVID era.

Undoubtedly, there is an impeding danger for benign pathologies, such as hernias, which must be addressed and seriously considered during this outbreak. Our findings should be the initiative for discussions between health care providers as to degree of excess morbidity and mortality suffered by general surgical patients with such benign pathologies in the COVID era. Moreover, the delayed presentation of patients with benign entities poses a major ethical dilemma nowadays that must be faced with caution by physicians and surgeons worldwide.

Robust conclusions about collateral damage of the virus in health status of general population might only be appreciated

by future studies. In summary, our results must be interpreted by health administrators, which should offer solutions to improve health care access while simultaneously maintaining the integrity of the COVID-19 control management measures.

### DISCLOSURE

The authors declare no conflicts of interest.

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## Reply to: “A multifaceted virus. Nonreducible and strangulated effects of COVID-19”

### To the Editor:

On behalf of all coauthors and collected data contributors, we would like to thank Drs Mulita, Sotiropoulou, and Vailas from Greece for their comments on our recent publication entitled

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**TABLE 1.** Nonreducible and Strangulated Hernia Cases Before and After COVID Outbreak

Types of Hernias	Pre-COVID-19, February 26, 2019 to December 26, 2019	COVID-era, February 26, 2020 to December 26, 2020	Statistical significance, $p < 0.05$
Nonreducible inguinal hernias	41	62	$p < 0.05$
Strangulated inguinal hernias	10	31	$p < 0.05$
Non-reducible incisional hernias	18	30	$p < 0.05$
Strangulated incisional hernias	7	15	$p < 0.05$
Nonreducible epigastric hernias	8	9	NS
Strangulated epigastric hernias	6	7	NS

NS, not significant.

“Dramatic decrease of surgical emergencies during COVID-19 outbreak.”<sup>1</sup> This is a multicenter observational study including data from 18 emergency surgery units of hospitals homogeneously distributed in Lombardy region, Italy. Data included emergency hospitalizations and surgical procedures performed during the first wave of the COVID-19 pandemic (March 2020), which were compared with data of March 2019. Our study confirmed that admissions in surgical departments and surgical emergencies significantly decreased in March 2020 compared with the same period of the previous year. We appreciated the letter by Mulita and colleagues; however, we would try to suggest some hypotheses explaining their results so different if compared with those of our study.

First, they collected data from February to December 2020, including not only the first wave of COVID-19 outbreak but also emergency operations performed later than the first peak of pandemic incidence. This is an important bias that has already been clearly declared in our study, in which we supposed a rebound effect of the number of surgical emergencies after this very particular period. In addition, as we stated in the part addressed to limitations of our analysis, the possible delay in the arrival of some surgical diseases in emergency departments or the onset of their complications could not be considered surprising. Therefore, when Mulita et al. supposed that some benign entities, like hernias, may access to hospitals with delayed onset of symptoms or complicated clinical presentation, because of the COVID-19 pandemic, they confirm our assumption, and this aspect has also been well investigated by other authors.<sup>2–5</sup>

Second, including only data about hernia operations, the results of Mulita et al. are hardly comparable to our results regarding several emergency surgical procedures (and, specifically, not hernia repair). Moreover, the authors declare that their experience comes from a Greek hospital covering a population of 1.5 million without any data about the zone-specific COVID-19 incidence. Since we have realized a multicenter study involving 18 surgical departments across the Lombardy region (which covers a population of about 10 million) with a quite homogeneous incidence of SARS-CoV-2 infection, we considered our data more reliable. What is more, given a so large

population of 1.5 million, it should be interesting to investigate other surgical entities beyond hernias only.

In conclusion, the different design, populations and study periods may lead to a misinterpretation of our results compared with those of Mulita et al. We agree with the authors that COVID-19 pandemic has led to collateral damages: pragmatic solutions need to be established by health services to not compromise the care of patients suffering from other diseases.

#### DISCLOSURE

The authors declare no conflicts of interest.

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On behalf of all coauthors and collected data contributors of the article “Dramatic decrease of surgical emergencies during COVID-19 outbreak.”

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pandemic. Has its severity increased? Analysis in a large volume hospital in Europe. *J Visc Surg.* 2021;158(1):94–95.

## Is focused assessment with sonography for trauma useful in patients with pelvic fractures?

#### Dear Editor:

I have read with great interest the recently published study of Schwed et al.<sup>1</sup> on the role of focused assessment with sonography for trauma (FAST) examination in pelvic fracture patients. The authors aimed to answer whether FAST can differentiate between pelvic fracture-related bleeding and true intra-abdominal bleeding needing surgery. Being an enthusiast promoting FAST for the last 30 years, I could not resist critically reading this important article and raise few points worthy of discussion.

First, it is essential that a criterion standard is well defined in any diagnostic study to achieve accurate results. Accordingly, the authors should have been consistent in their definition of the study outcome whether it depends on the presence of intraperitoneal fluid or the clinical outcome (the need for laparotomy). They have accepted a true-positive FAST if there were more than 250 mL of blood during surgery and “more than trace intra-abdominal fluid” by computed tomography (CT) scan. This contradicts their definition for the 67 “FAST studies that were considered to be true-negative in patients who were noted to have intra-abdominal fluid on CT scan but did not undergo operative management of those injuries.” To be consistent, these should be false negative. This will lead to 80 false-negative studies and 1,047 true-negative studies. Accordingly, the calculated sensitivity, specificity, positive predictive value, and negative predictive value should be 48.7%, 98.6%, 83.5%, and 92.9%, consecutively.

Second, another better approach to define how useful are these results in this studied specific population is the likelihood ratios. The positive likelihood ratio is (sensitivity/1 – specificity), while the negative likelihood ratio is (1 – sensitivity/specificity). The calculated positive likelihood ratio is 34.8, while the negative likelihood ratio is 0.52. The prior probability of the positive cases in the