Peer Review File

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Reviewer Comments

The present paper reports the experience of a French major neurosurgical center during the COVID-19 crisis in March-April/2020; the goal of the authors was essentially of sharing with the scientific community their new setup organization face to the crisis.

The paper is quite interesting, reasonably well written and documented although few minor drawbacks are encountered as follow:

1) English language is understandable being the form nicely French although I believe it could be improved, I would leave to the editorial staff the choice, of course I am not the best to judge such a matter being not of mother language (i.e the word confinement could be changed to lockdown, many phrases relating to the past could be changed in a past form instead of a present form etc.)

Answer: We thank the reviewer for his concerns regarding the refinement of English language in our manuscript, which is a very important matter. We will leave this appreciation to the Editor.

2) the authors should be congratulated for their results being able to well protect from covid infection all team, to reduce only slightly their activity and also all patient receiving the gold standard management without any loss of chance. On the other hand it was not the same in others French areas as "the great east region" and "the Paris region" where the activity dropped down almost to 10 %, many neurosurgeons where affected by Covid-19 infection and etc. now I wonder if they had very nice experience and good results as they implemented a new fantastic organization/setup or maybe local situation was possibly different thus easier to manage? Please comment, argument, explain (1).

Answer: We thank the reviewer for this precise epidemiologic concern. We aimed to describe the reorganization of the neurosurgery department at the beginning of the first wave of Covid-19 outbreak. The manuscript clearly state that half of the neurosurgical paramedical team was reassigned to support the Covid-19 medical and resuscitation departments. On the same way, we lost half of the working force of the operating theatre. Thus, we were only able to operate on the patients with neurosurgical emergencies. Regular neurosurgical activity was stopped.

We also briefly describe the reorganization of the university hospital where we work. However, we do not have the authority nor the elements to discuss the hospital priorities any further.

On the same way, it would be counterproductive to discuss why we were able to manage the incredibly high number of Covid-19 patients in Marseille while other regions in France required the support from surrounding facilities. We think that the main reason is the number of hospital beds in medicine and in the resuscitation unit per capita, and we are lucky enough to have very large facilities in Marseille which constitute the second largest university hospital in France. However, for obvious diplomatic reasons, we can't write this down in a manuscript.

3) Many others institution also setup a specific covid ethic committee to afford difficult situation/decision, was it the case also for this center? if yes it would be interesting to known its application on the specific domain of neurosurgery (1);

Answer: We thank the reviewer for highlighting this major concern. We already provided a whole section with a paragraph which clearly explains that a multidisciplinary team of senior physicians was constituted, and that they examined the medical case of each patient every week to assess for the urgent character of the surgery.

This can be found in the **Analysis section**

Sub-section **"patients recruitement"**

Quoting "A list of the most common pathologies in neurosurgery was established in order to classify the patients from 2 to 5 (Table 1). Level 1 patients, who were mainly diagnosed as outpatients, were eligible for delayable surgery. Level 3 to 5 were considered as urgent patients. A multidisciplinary team with experienced senior neurosurgeons and anaesthetists met every Wednesday to schedule the surgical planning for the upcoming week. At the present time on Monday, April 20, 70 level 1 or 2 patients are waiting for their surgery to be scheduled."

Another paragraph in the **Discussion** section is focused on this matter

Quoting "Covid-19 outbreak led to an unprecedented number of admissions in ICU for severe acute respiratory syndrome in modern medicine era; as a direct consequence, there was a high consumption of medical resources34. In this setting, neurosurgical teams were obliged to make the difficult choice of prioritizing their patients35,36. A multidisciplinary Covid-19 team of senior attendings was often created to discuss the emergency level of each patient 12,26,29. A few teams have established simple emergency grading systems, with three different levels of severity 12,14,22,37: the lowest one was for patients requiring surgery within a week, the medium one for surgery required within the day, and the highest one for immediate vital or functional emergencies. Similar systems have also been introduced specifically for spinal emergencies 38. Finally, some authors simply relied on common sense regarding what is and what is not an emergency 39. All authors agreed that only symptomatic, and vital emergencies should benefit from surgery during the pandemic peak 19,21,37, and a few teams shared their surgical experience according to that principle 12,23,27,28"

However, we are opened to discuss this point further and to revise the manuscript if necessary.

4) It is true that the authors made a PubMed search on 19th April 2020, in the same time the paper has been submitted in the middle of November2020 thus I believe that the reference list should be updated on this topic that is everyday evolving;

Answer: We thank the reviewer for his concerns regarding the actualization of our references. Indeed, the Covid-19 outbreak led to an unprecedent number of medical articles published in a year, and we face fast-evolving recommendations every day.

Yet, this manuscript was submitted on July 7th, November to the Journal of Hospital Management and Health Policy. At that time, the neurosurgical literature was not significantly different from what is was one month and a half earlier.

Thus, we would prefer that priority is given to the fast publication of this work rather than to the actualization of constantly evolving guidelines. Indeed, we think that fast online publication of this manuscript would be of greater benefit. What is more, the measures that we took to maintain the urgent neurosurgical activity in our department were quite similar to the current international recommendations.

5) last feature although not less important concerns the team mental health: has such a team, although the difficulties due to the emergent and unprecedented situation, made any action to protect also the mental integrity of the team, and if it was the case what exactly has been done (2)? please comment, argument, explain.

Answer: We thank the reviewer for his concerns about the mental health of the caregivers during the unprecedent outbreak during the 21th century.

Some sections of our manuscript already address this point.

In the **Reporting** section

Sub-section **"unit management and staff protection"**

Quoting "Our medical team was reduced to the number necessary to perform the surgeries, look after the patients in the remaining two units, and attend urgent consultations. Half of our senior neurosurgeons stayed at home. Our residents evolved in a rotation planning so that they were only 3 on 6 at the same time in the department. We kept our routine morning staff where we reviewed every case of patient admitted in our department, every postoperative imaging, and every complementary examination."

This paragraph clearly states that the senior and the junior physicians benefited from personal time outside the hospital to rest.

Another paragraph at the beginning of the **Discussion** section states that, as neurosurgery residents, we were particularly protected from reallocation measures because maintaining a neurosurgical activity is of paramount importance

Quoting "Neurosurgery is a small surgical speciality with well-trained physicians 15. Thus, reallocation of neurosurgeons in medical units under pressure had to be thought wisely 16. It depended on the amount of urgent neurosurgical patients and the presence of neurosurgery departments in surrounding hospitals12,13. Some teams created a rotation planning, so that they could keep their department running and in the same time preserve half of their team 17–19. We followed the same example."

Yet, mental health what not the main focus of this manuscript and we did not want the main point of this work to be drowned under too many secondary endpoints. One reference (number 18, J Neurosurg) deals with such a matter. We would like to keep our manuscript focused on the precise matter of a neurosurgical department reorganization.

However, we thank the reviewer for his concerns. We will wait for the Editor's decision, and we will revise our manuscript accordingly if necessary.