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Involvement in Catalonia of the Anaesthesiology and Resuscitation Services in the SARS-CoV-2 pandemic. A real, cost-effective solution to an unprecedented health crisis[☆]



Implicación en Cataluña de los Servicios de Anestesiología y Reanimación en la pandemia por SARS-CoV-2. Una solución real coste-efectiva para una crisis sanitaria sin precedentes

To the Editor,

The SARS-CoV-2 coronavirus pandemic has tested the capacity of the entire healthcare system to the limit. This is particularly true of critical care units, which have had to double or triple their capacity to cater for demand. Post anaesthesia care units and other units in the surgical suite have played a fundamental role in preventing the collapse of critical care units. These units, which include certain Reanimation units, Post Anaesthesia Care Units (PACU) and operating rooms managed by the Anaesthesiology and Reanimation Service, are overlooked by hospital management and health services because they are not part of the critical care bed management system in many hospitals, even though they have all the intensive care units resources recommended by anaesthesiology scientific societies.¹

The transition in recent years from acute care hospitals to institutions aimed primarily at surgical patients has made Anaesthesiology and Resuscitation Services one of the largest hospital departments. A crisis such as the current pandemic inevitably involves suspending a large proportion of elective surgeries, and this has freed up expert personnel such as qualified anaesthesiologists and allowed them to be reassigned to critical care units.²

At the beginning of the pandemic, the Catalan Society of Anaesthesiology, Reanimation and Pain Therapy (SCARTD) contacted the service managers in Catalan hospitals to ask how many care units they had available. Once the stage of surgery cut-backs had been reached, a 12-item online survey was designed to evaluate the real participation of personnel from the Anaesthesiology Services. The questionnaire was sent to all the heads of Anaesthesiology and Reani-

mation Services in tertiary, secondary and regional public and private hospitals in Catalonia. A total of 41 completed questionnaires were received between 30 April and 6 May 2020.

The main conclusions that can be drawn from this survey are as follows: (1) The hospitals polled had, in aggregate, 796 critical care beds officially available before the COVID-19 pandemic. Of these, 199 (25%) were administratively assigned to the Anaesthesiology Services of these hospitals. (2) During the COVID-19 pandemic, the number of beds assigned to critical patients increased from 796 to 1674 (210%), of which 729 (43% of the total) were managed and staffed by Anaesthesiology Services. This is an increase of over 350% compared to the number of pre-pandemic beds available (from 199 to 729 critical beds). (3) All the hospitals polled reported that a large number of anaesthesiologists have been involved in the care of critical COVID-19 patients. In 53.7% of hospitals, anaesthesiologists have been in charge of the medical care of critical patients, and in the remaining hospitals anaesthesiologists have formed part of multidisciplinary teams. (4) To take on these responsibilities, members of the Anaesthesiology Services have had to change their work schedules and have been responsible for airway management in COVID-19 patients. (5) A total of 732 anaesthesiologists, 67% of the entire staff of anaesthesiologists, were assigned to the direct care of COVID-19 patients. The remaining 33% were assigned to urgent and/or non-deferrable surgery, with occasional contact with COVID-19 patients.

The survey shows that successful management of future health crises will depend on the availability of clinical structures that can be effectively and efficiently adapted to care needs arising at any given moment. Another key component is qualified personnel, such as anaesthesiologists, who have the technical know-how and clinical expertise required to care for critically ill patients.² It is essential to factor in the beds and staff available in the Surgical Suite when the need arises to increase the capacity of critical care units. Including these multipurpose spaces attended by anaesthesiologists in bed management systems would allow hospitals to maintain their quality of care and would provide a cost-effective solution to the problem of increased demand in future crises, such as COVID-19 or other pandemics, mass casualty incidents, etc.

Annex I. Study authors and signatories

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Mechanical ventilation in lung injury caused by SARS-CoV-2: What can contribute volumetric capnography?☆



Ventilación mecánica en daño pulmonar por SARS-CoV-2: ¿qué puede aportar la capnografía volumétrica?

To the Editor,

Following the appearance of the first severe cases of COVID-19, it was observed that most deaths were associated with lung involvement. The atypical presentation of this new viral pneumonia – initially characterised by severe hypoxemia with mis-matched blood gas and radiological findings – created a great deal of confusion. Pneumonia can rapidly progress to acute respiratory failure requiring ventilatory support in approximately 5–15% of cases. Many mechanically ventilated patients progress to more aggressive forms

of pneumonia that can culminate in typical acute respiratory distress syndrome (ARDS).

The atypical, rapidly evolving presentation with significant pulmonary vascular involvement in patients with COVID-19 has led several groups to suggest that this entity is different from ARDS.^{1,2} In this context, Gattinoni et al. suggested that COVID-19 patients present 2 different phenotypes: the L (low) phenotype and the H (high) phenotype, based on clinical, radiological and respiratory mechanic manifestations.³ In summary, type L patients do not show the typical signs and symptoms of ARDS, since they have high tolerance to hypoxaemia, few radiological infiltrates, and low lung elastance. Type H patients, meanwhile, present the typical symptoms of ARDS, severe radiological involvement and high elastance. The authors suggested two different ventilatory strategies for treating these phenotypes.

Many physicians with experience in the management of these patients expressed their doubts regarding the frequency with which both phenotypes presented in such a pure form, and also disagreed on separating ventilatory treatment so pragmatically and categorically. This raises some obvious questions: Is the L phenotype pneumonia and the H phenotype progression to ARDS? Are there intermediate forms of presentation? Should ventilation be delivered according to a fixed protocol, or should it be personalized regardless of the phenotype?

It seems obvious, aside from opinions not backed by conclusive evidence, that we need markers, diagnostic methods

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