The challenge of ECMO in burned patients. The first case of extracorporeal treatment of major burned patient from Grandi Ustionati Center of Città della Salute e Della Scienza di Torino.

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Argomento: Caso clinico

Major burn injuries (defined as involving more than 20% of total body surface area) are frequently complicated by Acute Respiratory Failure (ARF) and Refractory Hypoxemia (RH). Severe ARDS treatments include lung protective ventilation, prone positioning (PP), non—depolarising neuromuscular blocking drugs (NDNMB), recruitment maneuvers (RM) and the rescue use of extracorporeal life support technique (ECLS). Indeed, the application of ECLS techniques in burned patients is conflicting.We report our first case of burned patient with severe ARDS managed with V-V ECMO after the failure of the maximal ventilation strategy.The patient is a **67** year old male presented at our Burned Center with **20%** of TBSA involved and inhalation injury caused by ignition of gasoline. The first treatment was a fluid resuscitation (calculated using modified Parkland), partial escharotomy, and orotracheal intubation.Ventilatory support was applied with a multimodal progressively intensificated protocol (protective ventilation, RM, and NDNMB). Pronation wasn't performed for hemodinamical instability.The patient developed hypoxia and severe and refractory hypercapnia (P\F<50, CO2 >110mmHg and increased serum lactate) in 5 days, requiring incremental vasopressor use.We decided to make a trial ofVV-ECMO.Cannulation and subsequent transfer to Città della Salute Respiratory ICU was carried out by the CRECMO Team. ECMO treatment lasted for 10 days, then the patient was successfully weaned off. During ECMO, plastic surgery management was continued without side effects despite continuous infusion of heparin.

Conclusion

ECMO application in burned patients is rarely reported. Our patient's positive outcome may highlight the chance of expanding ECLS indications even for a selected burned population with life threatening hypoxemia refractory to conventional therapies.

Reference

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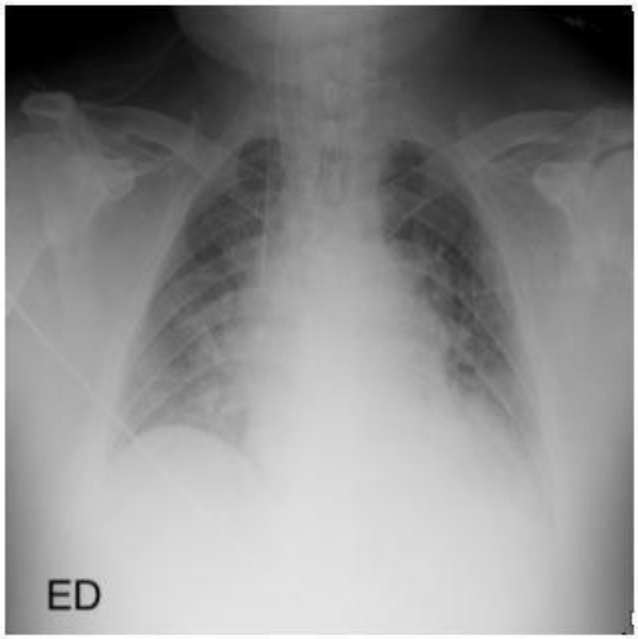
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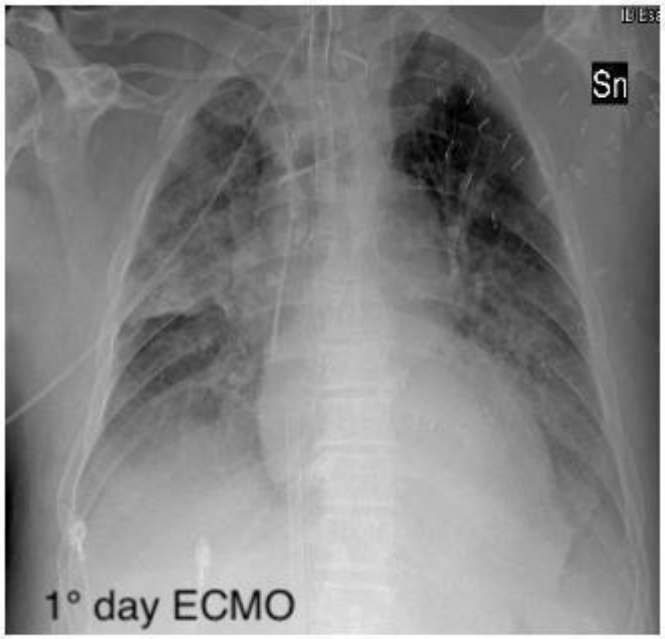
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1° day ECMO