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LETTER TO THE EDITOR

Early routine use of V-A ECMO in patients with myocardial infarction and cardiogenic shock, is it a poor choice?

Uso rutinario precoz de ECMO V-A en pacientes con infarto de miocardio y shock cardiogénico, ¿es una mala opción?

Dear Editor,

Cardiovascular disease is one of the leading causes of mortality worldwide. In this context, the most important complication of myocardial infarction in terms of its prognostic impact is cardiogenic shock, with a mortality rate that remains close to 50% despite the major therapeutic advances of recent decades.[1]

The cornerstone in the management of cardiogenic shock is circulatory support based on the use of vasoactive and inotropic drugs. Extracorporeal membrane oxygenation (ECMO), which in contrast to other devices provides both circulatory and respiratory support, is also used in selected cases of refractory shock.[2] Although the current evidence supporting the utilization of ECMO in such patients is limited, its use has increased markedly in recent years.

Thiele et al.[3] carried out the ECLS-SHOCK study to determine whether the early routine use of ECMO improves survival in patients with myocardial infarction, cardiogenic shock versus the usual treatment. Among the main results, the authors recorded no significant differences in terms of all-cause mortality between the two groups. However, (47.8% vs. 49%), a significant increase in moderate/severe bleeding was observed in the ECMO group compared with the controls, (23.4% vs. 9.6%)

These findings are clearly not encouraging and could even be regarded as negative. Nevertheless, we consider that the aforementioned study has numerous weaknesses and some points warranting criticism that should be taken into account to improve the designs of future trials. The authors classified patients according to the criteria of the Society for Cardiovascular Angiography and Interventions (SCAI) into stages C (Classic), D (Deteriorating) and E (Extremis).[4] In our opinion, if the study aimed to evaluate the usefulness of ''early'' ECMO for reducing mortality, patient selection and inclusion should have been limited to stages C and D. The inclusion of patients in stage E could have had a significant impact upon the results, particularly on taking into account that up to 12.5% of the patients in the control group were displaced to the intervention group. On the other hand, the fact that over 77% of the patients had undergone cardiopulmonary resuscitation before randomization evidences the extreme severity of the patients in both groups. Another important point is the mean left ventricular ejection fraction in the two groups (30%). This could suggest that patients in less severe conditions than usual in real-life clinical practice were included, thus exposing them to a needless bleeding risk. Without details stratified by severity groups, we cannot determine whether the risk exceeded the benefit in the patients in stage C.

Based on the currently available evidence, it is clearly not possible to recommend the routine early use of V-A ECMO in patients with myocardial infarction and cardiogenic shock. However, this does not mean that we must discard this indication of ECMO support, since its use could prove necessary as a life-saving rescue strategy in some of these patients. For the time being, uncertainty remains as to which method is best for selecting the patients, and as regards the ideal timing, when the benefits exceed the potential adverse effects.

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