

## ALTERATIONS OF THE ERYTHROCYTE MEMBRANE DURING SEPSIS

Serroukh Y, Djebara S, Lelubre C, Zouaoui Boudjeltia K, Biston P, Piagnerelli M<sup>2</sup>

### ABSTRACT

Erythrocytes have been long considered as “dead” cells with transport of oxygen (O<sub>2</sub>) as their only function. However, the ability of red blood cells (RBCs) to modulate the microcirculation is now recognized as an important additional function. This capacity is regulated by a key element in the rheologic process: the RBC membrane. This membrane is a complex unit with multiple interactions between the extracellular and intracellular compartments: blood stream, endothelium, and other blood cells on the one hand, and the in-

tracytoplasmic compartment with possible rapid adaptation of erythrocyte metabolism on the other. In this paper, we review the alterations in the erythrocyte membrane observed in critically ill patients and the influence of these alterations on the microcirculatory abnormalities observed in such patients. An understanding of the mechanisms of RBC rheologic alterations in sepsis and their effects on blood flow and on oxygen transport may be important to help reduce morbidity and mortality from severe sepsis. [ **Crit Care Res Pract.** 2012;2012:702956. Epub 2012 May 21] PMID:22675622

<sup>2</sup> Department of Intensive Care, CHU-Charleroi, Université Libre de Bruxelles, 92, Boulevard Janson, 6000 Charleroi, Belgium.