O Dilken 1 ; A Dijkstra 2 ; G Guven 1 ; C Ince 1 ; N Trommel 3 ; M Van Baar 3 ; K Van der Vlies 3
1Erasmus MC, Department of Intensive Care, Rotterdam, Netherlands, 2Maasstad Ziekenhuis, Intensive Care Burn Unit, Rotterdam, Netherlands, 3Maasstad Ziekenhuis, Department of Burn Unit, Rotterdam, Netherlands

**Introduction:**
Burn injury is characterized by marked inflammation, capillary leakage, and profound hemodynamic alterations. Early albumin resuscitation is avoided fearing a paradoxical fluid escape into the interstitium. On the other hand, administration of crystalloids in massive amounts causes tissue edema and fluid extravasation, which deteriorates tissue perfusion by increasing oxygen diffusion distance. Albumin administration could reduce the amount required to maintain hemodynamic stability in this population. We investigated whether albumin improves tissue perfusion and microcirculation by reducing tissue edema.

**Methods:**
This is an observational study conducted in the Burn Unit of Maasstad Hospital, Rotterdam. Patients with burns higher than 15% of Total Body Surface Area (TBSA) were included in the study. Sublingual microcirculation was measured at admission (T0), 4(T4), and 12(T12) hours after burn injury. Total Vessel Density (TVD) and Functional Capillary Density (FCD) were analyzed. Fluid Management was calculated according to the modified Parkland formula. Albumin (20%) infusion was started 12 hours after the burn insult.

**Results:**
A total of nine patients were recruited between January and December 2019. Patients were included in the study after 5.7±2.3 hours of the insult with a mean TBSA of 36±22%. The amount of crystalloid infusion was 2718±3348 ml and 8501±5230 ml at T0 and T12, respectively. Within the first 12h (T12) 502±386 ml albumin was given.
TVD decreased from 23.6±2.2 at T0 to 20±1.3 at T4 (p<0.05). It increased to 22.7±3.2 at T12 (ns vs T0). FCD decreased from 21.2±2.3 at T0 to 18.4±2.1 at T4(p<0.05). It increased to 21.5±3.2 at T12 (ns vs T0). Focus depth increased (117±32 to 143±28) until albumin administration(p=0.23). It decreased to 95±28 μm at T12 (p<0.05).
Hematocrit decreased after albumin administration (45 to 34%)(p<0.05)

**Conclusion:**
Resuscitation with crystalloids impaired tissue perfusion. Microcirculation was improved after albumin therapy.

**References:**
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**Image:**