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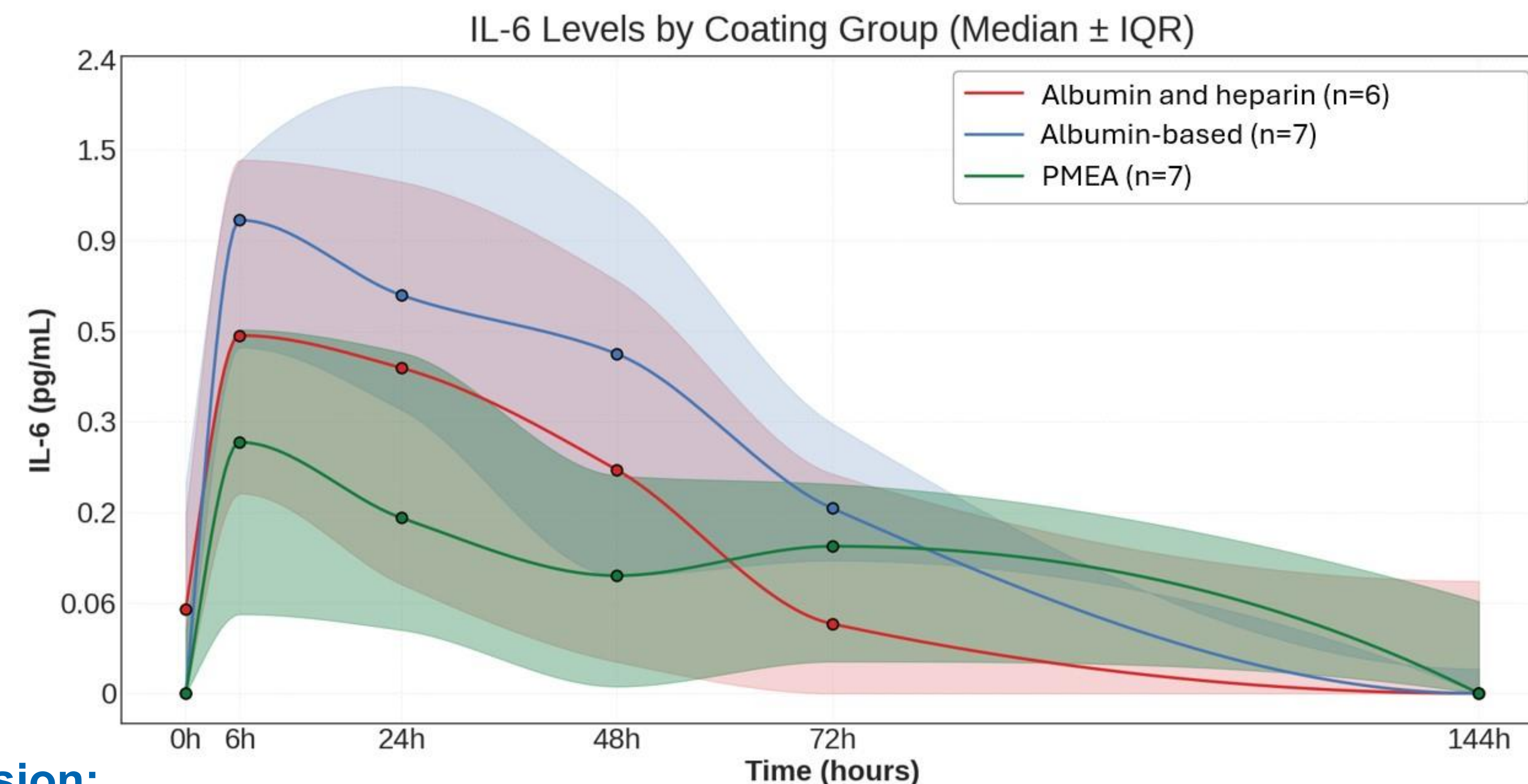
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Objectives: To characterize the temporal profile of systemic inflammation during Fetal Liquid Incubator (FLI) support by quantifying serum IL-6 and exploring the influence of different extracorporeal (EC) circuit coatings.

Methods:

Preterm sheep (n=20; gestational age 109–132 days) were transitioned to FLI via umbilical cannulation and maintained in synthetic amniotic fluid under continuous physiological monitoring for at least 6 days. EC circuits incorporated clinically used surface coatings and were classified by their main components as: dual-component of albumin and heparin (n=6), albumin-based (n=7), and poly-2-methoxyethylacrylate (PMEA) (n=7). Serum samples were collected at the time of cannulation (0) and 6, 24, 48, 72, and 144 h. IL-6 protein levels were quantified with an ovine-specific ELISA.

Results: IL-6 profile during FLI support by different coating groups.



Conclusion:

FLI support results in a transient IL-6-mediated inflammatory activation that attenuates over time. There was trend toward lower levels with PMEA suggesting a potential influence of the coating material on EC-induced inflammation. These results support the need for further investigation and optimization of coating strategies.