FROM THE INSIDE

HES: time to change my mind?

Guenther Frank*

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I very well remember the presentation of Konrad Reinhart at the ESICM Lives Congress 2011 in Berlin about the recommendations of the task force on colloid volume therapy in critically ill patients, which were later published in this journal [1]. I was a believer and the consumption of HES in my anesthesia department in Eisenstadt Austria went down to a minimum over the next year and we abandoned any synthetic colloid and stopped using HES, not only in the ICU but also in anesthesia and in emergency medicine including obstetrics and trauma care. Since this is a radical decision, I followed the discussion about HES very carefully over the last years. Large trials were carried out and published and heavily criticized. On December 19th, 2013, the European Medicines Agency published a decision of the European Commission that HES solutions must no longer be used to treat patients with sepsis or burn injuries or critically ill patients, because of an increased risk of kidney injury and mortality, but HES would be available in restricted patient populations. Manufacturers were forced to include contraindications and warnings in the drug information. Usage of HES further went down and the discussion cooled down. Now in January 2018, PRAC and EMA started a new initiative to suspend the licence of HES in the EU, and the discussion started again [2].

Over the last 4 years, I changed hospitals two times and tried to convince my new colleagues to use HES with caution and to follow the recommendations of the EMA. My impression about HES usage in the clinical setting is that it depends more on the attitude of the physician to HES than on the medical circumstances how often, when and how much HES is used. In Austria, pharmaceutical companies are still promoting HES heavily. EMA stated in 2018 that results from two drug utilisation studies were indicating that HES solutions are being used in critically ill patients and those with sepsis and kidney injury,

despite restrictions introduced in 2013. The studies are unfortunately not mentioned, but my experiences affirm this statement.

And now in early 2018, a further very well carried out trial has been published which may change my mind [3]. HES may have an advantage in elective major abdominal surgery, especially in avoiding interstitial edema and anastomotic leakage. HES-yes or HES-no may not be the answer. What I have learned from the now 420 citations in my endnote library concerning volume replacement and fluid management, and my experience with and without HES, is that there is one reason to use HES and two reasons not to do so. The one reason to use it is that it remains intravascularly if the endothelial barrier including the glycocalyx stays intact and therefore has a more enhanced effect on plasma volume and causes less edema than crystalloids. The two reasons not to use it are the potentially negative effects on kidney function [4] and coagulation [5], both of which are dose-dependent. It is not easy to find the balance between risks and benefits, but lately, when I think that capillary leakage occurs or when coagulation is compromised, it is time to stop using HES. It would be helpful to have an early bedside marker for capillary leakage, but meanwhile we must consider situations when glycocalyx may be destroyed [6] not appropriate to use HES. In addition to sepsis and burns, these are anaphylaxis, cardiopulmonary resuscitation, hemorrhagic shock, and others [7].

I have tried for many years now to avoid synthetic colloids completely and I really do not miss them. But I am still not quite sure whether there may be some benefit in elective major abdominal surgery. I will continue to follow the scientific discussion and may change my mind, as every clinician should do sometimes.

Compliance with ethical standards

Conflicts of interest

Guenther Frank declares that he has no conflicts of interest.

*Correspondence: guenther.frank@horn.lknoe.at
Department of Anaesthesiology and Intensive Care Medicine, Hospital Horn, Horn, Lower Austria, Austria

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