Transfusion – Associated Circulatory Overload (TACO)

TACO is defined as acute or worsening respiratory compromise with or without acute or worsening pulmonary oedema during or up to 12 hours of transfusion, with additional features including cardiovascular system changes not explained by the patient’s underlying medical condition, evidence of fluid overload and a relevant biomarker. It is an uncommon blood transfusion reaction however it is a major contributor to both morbidity and mortality. Additionally, in over 90% of approved cases, this reaction is preventable. The purpose of this study is to emphasise this point and encourage the implementation of preventable methods to reduce the number of TACO cases. This was a retrospective study over four months of patients presenting from January till April 2023. A total of 50 patients were selected based on the Wiersum – Osselton criteria from the Royal Shrewsbury Hospital Blood Transfusion Lead in United Kingdom according to the specified parameters however 12 patients were excluded from the study due to incomplete information. The standards are non-bleeding patient depending on age and risk factors with preventable measures of Pretransfusion TACO checklist, 24-hour fluid balance, weight adjusted red cell dosing, 24 hour monitoring post transfusion and the administration of diuretics. In total of 38 patients, 13% had 24 hours fluids balance, 16% had 24 hours monitoring and 100% of the patients were with risk factors of developing TACO. In conclusion, TACO is an avoidable transfusion complication in many situations, and is still underappreciated and underreported. Most TACO cases are associated with a known risk factor for circulatory excess. Despite well-established advice and techniques to minimize TACO in patients with risk factors, data reveals that these are not being used in clinical practice and, we are missing opportunities to safeguard our patients.

Keywords: Blood Transfusion reaction, emergency medicine, mortality and morbidity