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P281 -Allergic reactions during haemodialysis treatment secondary to dialysis catheters

Dr Kateryna Macconail¹, Dr Reem AlJayyousi¹, Mr Nick Brylka-Mee¹, Professor James Burton²

¹John Walls' Renal Unit, Leicester General Hospital, Leicester, UK, ²Department of Cardiovascular Sciences, University of Leicester, Leicester, UK

Introduction:

During haemodialysis treatment, patients' blood comes into the contact with a number of materials including the dialyser, haemodialysis lines, different anticoagulants and vascular access catheters. Allergic reactions during haemodialysis treatment have been described in the literature previously. Patients can react to any part of the HD circuit but because of the complexity of the dialysis circuit, it is often difficult to determine exactly which part of the system may be causing the reaction. We have observed an increased number of allergic reactions in the group of patients who have been dialysed through haemodialysis catheters. These patients can be difficult to manage because of the severity of reactions, often resulting in discontinuation or interruption of HD sessions; the need for emergency treatment and need for additional vascular access procedures.

Methods:

This is a retrospective analysis of 8 prevalent HD patients identified as having an allergic reaction to a dialysis catheter in the 12-month period of October 2017 to October 2018. An allergic reaction was defined as a combination of clinical symptoms (hypotension, desaturation, shortness of breath and dizziness) and rise in the eosinophils. Hypersensitivity was considered to be secondary to the catheter by process of exclusion. Clinical data were retrospectively collected from the medical/nursing notes with haematological and biochemical variables from the patients' electronic notes (PROTON Information System V2.82a). All other potential causes were excluded (e.g. iron administration, heparin).

Results:

8 prevalent haemodialysis patients were identified (male=5). All patients were dialysed using polysulfone or polypropylene dialysers, with low molecular weight or unfractionated heparin. All patients were initially dialysing using a polyurethane catheter. Subsequently, 5 patients had their dialysis access changed: 3 had silicon lines inserted; 1 switched to peritoneal dialysis and one had an arteriovenous graft. None of these 5 patients had a subsequent allergic reaction after their polyurethane line was removed. 4 out of 5 patients had significantly reduced or normalised eosinophils count (Graph 1).

3 patients could not have alternative dialysis access due to clinical constraints and continued to receive premedication before each HD session with chlorpheniramine and/or hydrocortisone. This group continued to experience a reduced number of reactions but eosinophil count remained elevated (5.52+4.02 units).

Conclusion:

Reactions to polyurethane dialysis catheters are common and cause significant clinical consequences. Alternative dialysis access can ameliorate this process. Accepting that a definitive form of vascular access is preferable, there will always be a clinical need for HD catheters. Non-polyurethane catheters need to be more widely available for this purpose.