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USE OF DEXTRAN 40 FOLLOWING PANCREAS TRANSPLANT MAY REDUCE EARLY INFLAMMATION AND SIGNIFICANT BLEEDING COMPARED TO A HEPARIN-BASED PROTOCOL

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Introduction: Dextran 40 (D40) is a synthetic colloid with anticoagulant properties, which is commonly used instead of heparin following pancreas transplantation, however there is a lack of evidence over which is more effective. Graft thrombosis and pancreatitis, which may be mediated through micro or macrothrombosis within the graft, remain significant complications following pancreas transplantation. We hypothesised that D40 reduces inflammation through its antithrombotic pro-microcirculatory effects. We aimed to evaluate D40 compared to a heparin-based protocol by comparing post-operative complications and post-transplant levels of inflammation.

Method: Data were collected retrospectively for pancreas transplant patients between December 2009 and August 2018 – 26 patients had been treated with the pre-Dextran protocol and 37 had received D40. Post-operative complications and inflammatory markers (WCC, CRP and amylase) on post-operative days 1, 2, 3 and 7 were compared between the two groups. Potential confounders were also recorded.

Result: Patients in the D40 group had similar thrombosis rates but were less likely to have had substantial post-operative bleeding compared to the heparin-based protocol. The group who received D40 had significantly lower CRP and WCC on days 2, 3 and 7. The differences on days 3 and 7 remained when the results were adjusted for the significant confounders – cold ischaemic time and donor age.

Conclusion: D40 appears to be as effective as IV heparin at preventing graft thrombosis following pancreas transplant, and to confer a reduced risk of bleeding. It may also reduce post-operative inflammatory processes, leading to reduced graft pancreatitis.

Take-home message: Using Dextran 40 as an anticoagulant after pancreas transplantation is as effective as IV heparin at preventing graft thromboses and has a reduced risk of bleeding.