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High-Porosity Polytetrafluoroethylene Grafts Versus Conventional Expanded Polytetrafluoroethylene Grafts for Haemodialysis Access - A Single Centre Experience. John S. McGrath, Keith M. Rigg, Magdi Shehata. *The Transplant Unit, Nottingham City Hospital, Nottingham, United Kingdom.*

Introduction: The use of vascular grafts for haemodialysis is increasing. This has been attributed to the increasing longevity of haemodialysis patients and progress in the development of graft materials.

This study describes a single centre experience in the use of the new Atrium Hybrid PTFE graft. The structure of this graft differs from conventional ePTFE graft materials because it is composed of fibrils of differing length that allow a high porosity surface externally, conferring excellent tissue in-growth, and a low porosity surface on the inner luminal aspect capable of rapid haemostasis. This allows early needling of the graft with a resultant decrease in the use of temporary central venous access. Needle-hole bleeding is minimal and suturing of the graft can be performed with prolene rather than a costly goretex alternative.

Primary and secondary patency rates were established using life table analysis and the results of the Atrium Hybrid PTFE graft (n=39) were compared against previously used conventional ePTFE grafts (n=39). Data was also collected on graft site, revision rate, erythema, infection and previous access history.

Results: Average follow-up was 489 days (range 4 - 1601 days). The average time to graft needling was 3.8 / 25.2 days (Atrium/conventional). Cumulative primary and secondary patency rates are shown figure 1.

Conclusions:

1. There has been a 25% increase in the use of vascular grafts at our centre over the last 3 years.

2. The Atrium Hybrid PTFE graft:

- is easy to handle and easily 'routed' during placement.
- is suitable for safe, effective needling in the early post-operative period.
- has comparable primary and secondary patency rates in the haemodialysis population when compared retrospectively with conventional graft materials.

3. Early graft needling is associated with a reduction in the use of temporary central venous access.

Month	3	6	12	18
Atrium (Primary / Secondary patency Rate)	80/83	72/75	61/65	61/65
Conventional (Primary / Secondary patency Rate)	82/90	72/78	59/64	57/62