

Double-lumen central venous catheters with subcutaneous tunnel (PermCath(r)) in children on long-term hemodialysis treatment

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Background: In children on hemodialysis (continuous and intermittent) the long-term central vascular access provides an alternative to AV-fistula.

Aim: We studied efficacy and safety of the PermCath(r) catheter (Quinton), a double-lumen central venous silicon catheter with subcutaneous tunnel and dacron felt cuff.

Methods: Thirty catheters were used in 28 children aged 2 -20 years. Main indications: problems with ambulatory peritoneal dialysis(6), psychosocial problems(10), hyperoxaluria(4), planned living-related renal transplantation (RTx)(3), others(5).

Results: Median time of catheter use: 286 days. Mean blood flow: 152±29.1ml/min.

Complications (1.07 per patient year): Dislocation(3), septicaemia(12), mechanical or thrombotic flow problems(6), occlusion of truncus brachiocephalicus and v. subclavia(1); from these last 7 patients there were 3 who demonstrated an increased risk of hypercoagulation. Reasons for catheter removal: RTx(12), dislocation(3), availability of AV-fistula(2) or exitus letalis(3) due to the underlying disease, 9 catheters are still in use.

Conclusion: Although the AV fistula is still preferred a central vein catheter with subcutaneous tunnel is feasible with regard to efficacy even for long-term haemodialysis. Catheter associated problems are high with 1 per patient year requiring further refinement of this vascular access. The role of risk factors for hypercoagulation and their possible impact on catheter dysfunction needs to be elucidated further.

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