

BUTTONHOLE TECHNIQUE FOR HAEMODIALYSIS PATIENTS WITH ARTERIOVENOUS FISTULA

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PROBLEM: The buttonhole technique has been used on AV fistulas in Europe and Japan for more than 25 years. Nursing staff and patients benefit both from these; for staff, cannulation time is reduced and lesser needle stick injuries; for patients, potential complications associated with cannulation are decreased and/or are eliminated such as haematoma, infiltrations, aneurysm, stenosis formation and eventually shortening the lifespan of the AVF. Despite the potential benefits of this technique and high percentage of HD patients with AVF, only few dialysis units welcome the technique to be used to the main HD population with AVF.

PURPOSES:

- To ensure that all HD patients with AVF will be offered the technique that has superior benefits and less cannulation complications.
- To extend the lifespan of AVF, the “gold standard” vascular access for HD patients.

DESIGN: In March 2008, we began using the buttonhole technique for 10 of haemodialysis patients with AVF, who were originally using rope ladder technique and area puncture. Expectations were to achieve easier and quicker cannulation with less pain, elimination of anaesthetics, prevention of aneurysm and stenosis, and decreasing and/or elimination of potential complications associated with cannulation, thereby lengthening the lifespan of AVF. Currently our dialysis unit has 82 patients with vascular access distribution of; AVF-64 (78%), AVG-4 (5%), CVC-11 (13%), CVC longterm-3 (4%). Out of 64 patients on AVF, 56 (87.5%) patients are currently utilizing buttonhole technique and using blunt needles. We are still working on the remaining 8 (12.5%) patients to be on buttonhole technique.

FINDINGS: After 10 months of using buttonhole technique: majority of the patients claimed that needling is less painful thereby, use of anaesthetic has been significantly reduced; cannulation has become easier thus, alleviating the anxiety of some patients who suffered extreme cannulating stress; there are no incidence of needle stick injury; there are no cases of infiltration by using blunt needles; incidence of missed cannulation decreased drastically; no development of aneurysm and some existing aneurysms/pseudoaneurysms has flatten; less haematoma and scar formation on AVF area are noted.

CONCLUSION: Buttonhole technique demonstrates less cannulation complications and less pain thus patients strongly preferred this than rope ladder and area puncture technique. Buttonhole technique is also preferred by nurses because it is easier, faster and associated with fewer complications. No incidence of AVF infections from the time we started buttonhole technique in our dialysis unit as we strictly observe aseptic technique as per NKF K/DOQI clinical practice recommendation in carrying out the procedure.

RELEVANCE: Buttonhole needling technique contributes to decreased access-related problems, lengthens the lifespan of AVF, increased patient comfort, increased safety to staffs and high satisfaction to both patients and nursing staff. These are good parameters of service improvement and increased quality and standard of care for haemodialysis patients with AVF.