

THE CONVERSION FROM ROPE LADDER FISTULA CANNULATION TECHNIQUE TO BUTTONHOLE TECHNIQUE DOES NOT INCREASE THE RISK OF FISTULA-RELATED INFECTION AND RESULTS IN LESS COMPLICATIONS AND INTERVENTIONS IN CENTER-DIALYSIS PATIENTS

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OBJECTIVES

The buttonhole technique of access of needle insertion into a single selected site in the arteriovenous fistula has proved to be a reliable alternative to the rope ladder technique. However, several retrospective studies have demonstrated that buttonhole technique is associated with increased rates of fistula-associated infection, which had discouraged its use in many units. Aiming at assessing the usefulness of the buttonhole technique in center-dialysis patients, we conducted this prospective study

METHODS

- 20 patients were converted from rope ladder technique to buttonhole technique and prospectively followed up for one year

- All these data were analysed:

- Incidence of systemic infections
- Incidence Local fistula-related infections
- Needle stick pain intensity using 0-10 numerical rating scale
- Pre-needle stick anxiety using 0-10 numerical rating scale
- The use of topical anaesthetic
- Duration of haemostasis after needle withdrawal
- Haematoma occurrence
- The need for angioplasty or surgical intervention
- Patient's preference for the 2 approaches

Data were collected for rope ladder technique retrospectively at the time of conversion, and for buttonhole one month after conversion, then 6 and 12 months later

RESULTS

The preliminary results of 12 patients who had completed one year follow-up period are presented in the table

	Rope ladder	Buttonhole	P Value
Systemic fistula-related infection episodes	0	0	NS
Local fistula infection episodes	0	1	NS
Needle stick pain (numerical rating scale)	5.4 +/- 1.6	1 +/- 0.4	< 0.001
Pre-needle stick anxiety (numerical rating scale)	7 +/- 1.8	1 +/- 0.7	< 0.0001
Number of patients using topical anaesthetic	10	0	< 0.0001
Haemostasis duration (minutes)	12.32 +/- 3.36	4.1 +/- 1.9	< 0.001
Haematoma occurrence episodes	38	3	< 0.0001
Angioplasty or surgical intervention events	6	0	< 0.0001
Patient's technique preference	0	12	< 0.0001

CONCLUSIONS

- The frequency of fistula cannulation-related complications was significantly lower with buttonhole technique compared with rope ladder technique
- The conversion from rope ladder technique to buttonhole technique was not associated with significant increase in infection risk
- All the patients were satisfied and preferred the new technique

