Subcutaneous tunnel PICC catheterization can reduce the unplanned extubation rate compared with traditional B-ultrasonography catheterization in SOLO catheterization

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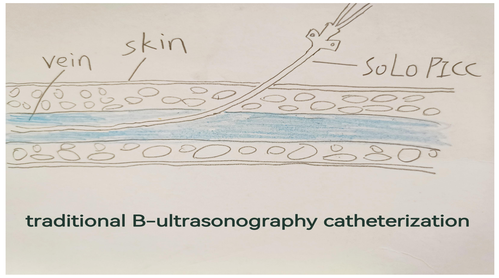
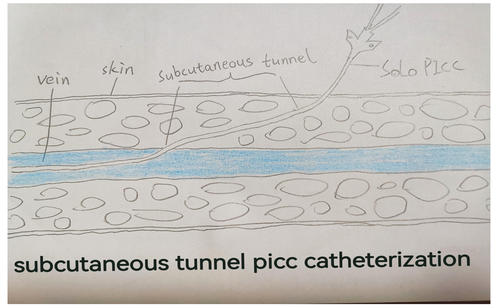
INTRODUCTION

The Solo tube is made of polyurethane, which is easy to cause dislodgement of the tube. The tube is dislodged when the catheter is prolapsed by 1cm or more within one month after implantation. In the past, the unplanned extubation rate of Solo tube in our hospital was high, especially in summer and winter.



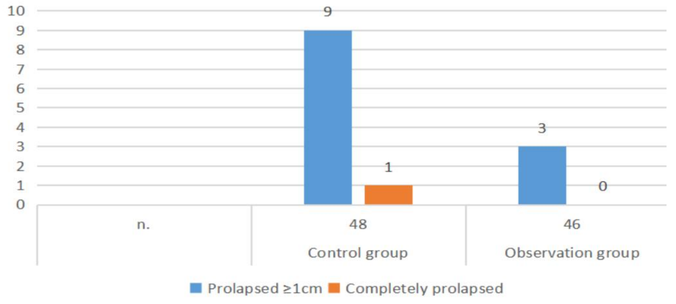


Subcutaneous tunneling structures the tunnel creation process compared to traditional B-scan Seldinger cannulation. Tunnel implantation is to form a distance in the subcutaneous tissue between the skin puncture point and the blood vessel puncture point, so that the skin puncture point and the blood vessel puncture point are staggered, rather than on the same longitudinal axis level.

METHOD

Data were selected from July 2021 to January 2022, 94 cases with Solo tube placement, and 46 cases in the observation group with tunnel placement. The control group was placed with conventional B-ultrasound Sidinger, a total of 48 cases.

	n.	Prolapsed ≥1cm	Rate(%)	Completely prolapsed	Rate(%)
Control group	48	9	18.75	1	2.08
Observation group	46	3	6.25	0	0



RESULTS

The detachment rate of Solo tube using tunnel catheterization was 6.25%, and the detachment rate of Solo tube placed by Seldinger under conventional B-ultrasound was 18.75%. It is proved that the use of tunnel cannulation can reduce the decannulation rate of Solo cannula. The incidence of catheter prolapse in the observation group was significantly lower than that in the control group, and the difference was statistically significant ($P<0.05$).

DISCUSSION

The skin tissue at the tunnel can fix the catheter and effectively prevent the occurrence of catheter displacement and detachment. When the subcutaneous tunnel is established, the positions of the skin puncture point and the blood vessel puncture point are effectively staggered, so the tube is not easy to slide inside and outside the puncture point.