

IMPLEMENTATION OF A “NO DRESSING” PROTOCOL FOR CATHETERS IN A LARGE HEMODIALYSIS CENTER: RECIPE FOR DISASTER



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INTRODUCTION

In chronic hemodialysis (HD) patients with a permanent central venous catheter (CVC), the exit site of the CVC is routinely inspected, disinfected and cleansed, then covered with an adhesive transparent dressing. Some patients develop skin irritation at the site of dressing application. While most of them improve with a trial of a different type of dressing and usual mitigating measures (Table 1), some patients present severe, intractable pruritus or contact dermatitis (Figure 1). In these patients, a “No dressing” protocol was attempted as a last resort solution for patient with incapacitating skin symptoms. The aim of this study is to review the characteristics and outcomes of patients in whom this « No dressing » protocol was attempted.

Table 1. Mitigating measures for contact dermatitis

- 1st step** Switch to 0.05% chlorhexidine gluconate/4% isopropyl alcohol solution
2nd step Application of topical corticoids prior to dressing application
- Hydrocortisone 0.5%
 - Desoximetasone 0.05%
 - Fluticasone propionate spraying

Figure 1



METHODS

A medical prescription by the attending nephrologist was necessary to initiate the “No dressing” protocol in patients identified as candidates by the nursing staff. In these carefully selected patients, the CVC exit site was disinfected at each treatment with a gauze impregnated with a 2% chlorhexidine gluconate/70% isopropyl alcohol solution for 30 seconds, then the exit site was let to dry completely. Patients were instructed to avoid traction on the catheter and catheter immersion.

RESULTS

Twelve chronic HD patients from a 375-patient unit were selected for the “No dressing” protocol from July 2012 to July 2013. 10 patients were males, the mean age was 76±14 years, the mean dialysis vintage was 42±28 months. 5 patients were diabetics. Indications were: intractable pruritus (11), severe dermatitis (8), recurrent removal of the dressing between treatments (3). Significant improvement of pruritus and contact dermatitis was observed (Figure 2). The mean duration of the “No dressing” approach was 172±139 days (median 160 days). Reasons for discontinuation of “No dressing” were: cuff extrusion (5), local infection (3), severe sepsis from the CVC (2, with 1 causing death), death (2), transfer to peritoneal dialysis (1). A second attempt of “No dressing” was made in 3 patients for intractable pruritus (median duration 34 days); and was stopped in 2 patients, due to tunnel infection (1) and cuff extrusion with severe sepsis (1). Overall, 9 out of 14 CVC had to be removed because of infection or cuff extrusion, 1 was pulled by accident, 2 were still inserted at patients’ death. Two deaths were attributable to CVC infections.

Figure 2



Table 2. Patients’ characteristics and outcome of the « No dressing » attempts

Patient	Age (years)	Gender	Dialysis vintage (months)	Renal diagnosis	Diabetes	# No dressing attempts	Duration of « No dressing » (days)	Indication for « No dressing » initiation	Reason for « No dressing » cessation	Catheter outcome	Patient outcome
1	58,4	M	28,6	Diabetic nephropathy	Yes	1	27	Pruritus Dressing removal	Infection	Removed	
2	90,6	M	82,1	Nephroangiosclerosis	No	1	244	Dressing removal	Cuff extrusion	Removed	Bacteremia 13 days after guide-wire catheter exchange
3	81,7	M	11,3	Nephroangiosclerosis	Yes	1	358	Pruritus Dermatitis	Death	In place at time of death	Died of myocardial infarction with catheter in place
4	53,0	F	46,2	Lupus nephritis	No	1	228	Pruritus	Infection	Removed	
5	65,6	M	36,4	Membranoproliferative glomerulonephritis	No	1	427	Pruritus Dermatitis	Cuff extrusion	Accidentally pulled	
6	82,7	M	17,2	Diabetic nephropathy	Yes	1	42	Pruritus Dermatitis	Infection Death	In place at time of death	Died with catheter in place
7	86,0	M	84,9	Nephroangiosclerosis	No	1	62	Pruritus Dermatitis	Cuff extrusion	Guide-wire exchange	Catheter-related bacteremia 1 day after guide-wire exchange, died 7 days later
8	84,8	M	57,4	Single kidney	No	2	41	Pruritus Dermatitis	Cuff extrusion	Removed	4-month hospitalization for septic polyarthritis after bacteremia
							21	Pruritus Dermatitis	Cuff extrusion Catheter-related bacteremia	Removed	
9	84,2	M	10,0	Nephroangiosclerosis	No	2	57	Pruritus Dermatitis	Catheter-related bacteremia	Removed	Transferred to another center
							? (>52)	Pruritus Dressing removal		In place at time of transfer	
10	89,4	F	65,2	Chronic glomerulonephritis	No	2	248	Pruritus Dermatitis	Exit site infection	Left in place	
							34	Pruritus Dermatitis	Tunnel infection	Removed	
11	61,0	M	18,5	Diabetic nephropathy	Yes	1	160	Pruritus Dressing removal	Cuff extrusion	Removed	
12	70,3	M	10,3	Bilateral nephrectomy	Yes	1	30	Pruritus Dermatitis	Transferred to PD	Normal at time of removal	

CONCLUSION

In its 2011 Guidelines for the Prevention of Intravascular Catheter-Related Infections, the Center for Disease Control states that “no recommendation can be made regarding the necessity for any dressing on well-healed exit sites or long-term cuffed and tunneled CVCs”. In our experience, the “No dressing” protocol for CVC exit site is associated with an unacceptable risk of infectious complications and leads to poor access and patient outcomes. Therefore, the “No dressing” approach has been abandoned in our unit. In case of intractable pruritus or severe local dermatitis at the CVC exit site, other strategies should be considered, including reemphasizing the importance of arteriovenous fistula creation.

