

Permanent Tunneled Catheter : Audit Analysis of Patients Presenting to A Tertiary Care Hospital.

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Abstract:

Vascular access for chronic kidney disease (CKD) patient is vital for a smooth transition from CKD 5 into hemodialysis (HD). Patient resist the idea of early creation of AVF till they manifest complications such as fluid overload, electrolyte or metabolic. This audit report is a review of our patients who had a permanent catheter placed for hemodialysis.

Methods:

Retrospective analysis of our patient registry data.

Results:

Majority of the patients had PC placed as permanent access for HD and only 40% of these were due to failure of an already placed vascular. Access.

Conclusion:

Majority of our patients had PC as the only solution left for HD and this may be due to delay in AVF creation. Fistula first policy should be implemented with the help of special CKD clinics and patient education.

Key words: Hemodialysis, arteriovenous fistula, catheter related blood stream infection, permanent catheter, vascular access.

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Introduction

Vascular access for chronic kidney disease (CKD) patient is vital for a smooth transition from CKD 5 into hemodialysis (HD).¹ It is however a fact that patients delay or refuse vascular access till they crash land into emergency room for HD and end up with temporary central venous catheter (CVC) as vascular access.² Permanent catheter (PC) is an alternate temporary vascular access with lesser chances of catheter related blood stream infections (CRBSI) due to the subcutaneous tunnel and cuff.³ Fistula first policy has been well accepted within the nephrology community to avoid potential CRBSI. In a previous study from Pakistan, arteriovenous fistula formation was delayed in majority of patients and similar finds are reported from different quarters.⁴⁻⁶

We here report the audit of series of patients who had permanent catheter placed for HD access.

Methods:

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PC records were being maintained in a registry documenting the basic reasons for catheter placement. This is an audit of the 29 consecutive patients who had permanent catheter placed. All catheters were placed under local anesthesia utilizing fluoroscopy guidance.

Statistics:

Retrospective cross sectional study was conducted. All data was analyzed using SPSS 29 (Dearborn Illinois, USA). Frequency of the parameters were calculated and presented as percentages. Simple descriptive analysis was used to display the data.

Results:

There were 32 patients who had a PC placed. General characteristics, including age and gender and other parameters are presented in table 1.

Age	56.17+10.83
Gender	Male=16 (55.17%), Females= 13 (44.93%)
Duration of dialysis	5.2+5.3 months (0.25-18)
Urgent HD	12 (41%)
AVF failure	11 (38%)
Permanent Access	23 (79%)
Peripheral vascular disease	21 (73%)

Table 1: Characteristics of 32 maintenance hemodialysis

Few data were missing including the underlying comorbidities. Among 11 patients with AVF failure as a reason for PC placement 7 had previously one fistula failure and 4 had AVF failed twice. 5 patients had reinsertion of permcath 4 due to PC dysfunction and 1 had cardiac arrhythmias thought to be related to improper placement of PC. 14 patients had right internal jugular PC placed, 8 had right subclavian PC, 3 had left internal jugular PC, one had left subclavian PC and 2 had right femoral PC. 21 patients had peripheral arterial disease as a reason for not forming of AVF.

Discussion:

In our audit of PC among maintenance HD patients, it is clear that peripheral vascular disease leading to inability of AVF creation was common, 73%. It is unfortunate that we did not maintain the data for clinical comorbidities that could highlight the underlying reasons for peripheral vascular disease. Since the prevalence of diabetes and hypertension is quite common in our patients reportedly, we can assume that these factors to be the main players in our audit also.⁷

The placement of PC is preferable in the right internal jugular vein and in our study it is obvious that in less than 50% this was the case. This could be due to the 41% patients presenting for hemodialysis as an urgent need thus more likelihood of complications associated with vascular access placement.⁸

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It is clear in our audit that pre dialysis CKD screening and proper guidance should be reinforced for successful AVF creation.⁴ This will help in improving the vascular access among our maintenance HD patients and a good quality of life.

Conclusion:

Only 40% of the patients in our patients had AVF created before placement of PC. Majority of our patients had PC as the only solution left for HD and this may be due to delay in AVF creation in the CKD. Fistula first policy should be implemented with the help of special CKD clinics and patient education.

Conflict of Interest: None Declared

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