

5 Diamond Patient Safety Program

Stenosis Surveillance 2009

*This presentation was collaboratively developed by the Mid-Atlantic Renal Coalition (MARC) and the ESRD Network of New England for the 5-Diamond Patient Safety Program.

The 5-Diamond Patient Safety Program is endorsed by the Renal Physicians Association (RPA) and American Nephrology Nurses' Association (ANNA).

1

Objectives

- To increase the stenosis surveillance performed per the K-DOQI Guidelines.
- To aid in the development of a vascular access QAPI that will:
 1. Improve the rate of use and preservation of Arteriovenous (AV) fistulas
 2. Decrease the inappropriate use of catheters
 3. Improve the care provided for all types of vascular access

2

What is Stenosis Surveillance?

- Stenosis surveillance is “the periodic evaluation of the vascular access by using tests that may involve special instrumentation and for which an abnormal test result suggests the presence of dysfunction”

-K-DOQI

3

Why is Stenosis Surveillance Important?

- Low blood flow rates and loss of patency affect Hemodialysis (HD) delivery and increase morbidity and mortality
- Thrombosis is the leading cause of loss of vascular access patency in long-term AV accesses, especially grafts
- Thrombosis adversely affects quality of life, may lead to hospitalization, and increases costs

4

K-DOQI Recommended Methods for Stenosis Surveillance

- **Color-Flow Doppler:** Color-Flow Doppler performed as a method of surveillance for the presence of stenosis **at least once during the quarter**
- **Static Venous Pressure:** Static Venous Pressure, direct or derived, performed as a method of surveillance for the presence of stenosis **at least once every two weeks**
- **On-Line Clearance/Access Flow Methods:** The On-Line Clearance (OLC) or Access Flow Methods of surveillance for the presence of stenosis performed **at least once a month**

5

Static Venous Pressure

- **Definition:**
 - Pressure in the access can be measured directly at the site of cannulation in the “arterial” and “venous” segments of the graft by using a pressure measuring device.
 - **Clinical Practice Guidelines and Clinical Practice Recommendations for Vascular Access, Update 2006**
American Journal of Kidney Diseases, July 2006 supplement, pg.S219
- **Documentation:**
 - Dated treatment sheet, progress note or log
- **Frequency:**
 - Minimally every 2 weeks within a quarter

6

Color Flow Doppler

- **Definition:** quantitative color velocity imaging, sometimes referred to as Duplex Doppler Ultrasound
- **Documentation:**
 - Radiology report
 - Progress note of radiology findings
- **Frequency:**
 - Once within a quarter
 - Can be used in conjunction with another form of surveillance

7

On-Line Clearance (OLC) or Access Flow Methods

- **Definition:** a process that compares percent recirculation to clearance value, looks for a positive correlation between Hemodialysis inefficiency and access management.
 - Mehmedovic,N. “On-line clearance monitoring for blood access management”. *EDTNA Journal* 2005 Jul-Sep; 31(3): 137-9
- **Documentation:**
 - Dated treatment sheet, progress note or printout
- **Frequency:**
 - Once a month

8

Stenosis Surveillance Change Concepts

- # 1 Routine Stenosis Surveillance
- # 2 Clinical Team Education
- # 3 Patient Education
- # 4 Outcomes Feedback

9

1 Routine Stenosis Surveillance

- Review K-DOQI guidelines for stenosis surveillance recommendations including measurement frequency
- Facility interdisciplinary team adopts standard procedure for stenosis surveillance
- Healthcare Personnel has accountability for reliable surveillance, data collection, documentation and review
- Timely referral of trended data to Nephrologists for:
 - Intervention for access dysfunction
 - Correlation with adequacy data

10

2 Clinical Team Education

- Routine in-service or educational programs on surveillance type used in the facility
 - Focus on type and frequency of surveillance
- Continuing educational programs by Nephrologists on stenosis surveillance
- Continuing education programs on vascular access monitoring that include:
 - Tracking difficulties experienced either pre or post treatment
 - Physical assessment

11

3 Patient Education

- Care plans include patient education on vascular access care:
 - Importance of access hygiene practiced by both patient and staff
 - Signs and symptoms of infection
 - How to feel the pulse or thrill
 - Ensuring that staff rotate cannulation sites (unless using button hole method)

12

4 Outcomes feedback

- Trend surveillance data with access interventions
- Review surveillance data in staff meetings
 - Discuss and evaluate data trends with clotting incidents
 - Ensure improvements are sustained
- Utilize surveillance data in QAPI

13

Conditions for Coverage

The Interdisciplinary Team (IDT) must provide vascular access monitoring and appropriate, timely referrals to achieve and sustain vascular access.

14

Selected Fistula First (FF) Change Concepts

- # 9 Monitoring and Maintenance to assure adequate access function
- # 6 Secondary AV fistula (AVF) placement in patients with AV grafts (AVGs)
- # 7 AVF placement in patients with catheters where indicated

15

FFBI Change Concept 9

- Monitoring and maintenance to assure adequate access function
 - Adopt standard procedures for monitoring, surveillance and timely referral for failing accesses
 - Develop a plan for each patient to determine extent of interventions on an existing access before evaluating and mapping for an AVF

16

FFBI Change Concept # 6

- Secondary AVF placement in patients with AVGs
 - Adopting a “sleeves up” protocol with minimum monthly monitoring of outflow veins
 - Consider AVF placement in patients with history of repeated AVG problems
 - Trend surveillance and monitoring information for proactive access care

17

FFBI Change Concept 7

- AVF placement in patients with catheters where indicated
 - Document
 - Vessel mapping
 - Surgeon evaluation
 - Maturation and cannulation
 - Catheter removal

18

Plan of Care

- Medical records must include evidence of evaluation and basis for the placement of the current access
 - Evaluation for the appropriate vascular access takes into consideration co-morbid conditions, risk factors and whether the patient is a candidate for an AV Fistula

19

Plan of Care *continued*

- The patient's access must be monitored for symptoms of stenosis and to prevent access failure.
 - Physical examination of the access, reviewing pressure changes during HD or noting difficulties in cannulation and/or hemostasis
 - Trending adequacy results
 - Timely referral when indicated
 - Patient education for self-monitoring

20

Documentation

- Surveillance or monitoring documentation can include:
 - Progress notes
 - Treatment sheets
 - Logs
- Documentation must indicate frequency of surveillance
- A member of the IDT must monitor documentation to identify trends and take action as indicated