Responsible Compassionate Care: Meeting the Needs of Patients with a History of Intravenous Drug Abuse

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Abstract

Vascular access specialists are brought into many difficult situations that stretch their ability to provide appropriate care to patients who have complicated medical and personal histories. In the following case, a hospital was challenged to provide appropriate care while remaining responsible and compassionate throughout the duration of infusate delivery.
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Introduction

A 51-year-old man arrived at the outpatient center of a rural, 143-bed hospital for 42 doses of 2 g/day ceftriaxone to be administered through a peripheral intravenous (PIV) device placed and removed daily secondary to a history of intravenous (IV) drug abuse (IVDA). The patient was transferred to this facility from a larger hospital and is being treated for an abscess in the lumbar area. Spinal surgery had been performed at a large hospital 1 month prior. Upon admission to the outpatient center on Day 1, a vascular access specialist was called after 4 failed attempts for peripheral access. An assessment with ultrasound of the venous pathways from hands to midupper arms revealed minimal viable venous options. Color power Doppler was employed and showed minimal blood flow through the few vessels large enough to cannulate. The basilic and brachial veins 6 cm above the antecubital fossa show adequate size and flow for a 4F peripherally inserted central catheter (PICC). A call was made to the primary physician to change the ceftriaxone dose to intramuscular injection until a plan could be made for further treatment.

It became obvious very quickly that a plan to place and remove a PIV for 42 days in a row was not a viable option and would not be considered for a patient with healthy veins and no history of IVDA. The information about this patient's history of IVDA was delivered by the physician ordering the antibiotic therapy and was confirmed by the patient. The patient reported that he had not used intravenous (IV) drugs for 11 months and his daughter was with him explaining the hard work he had been doing to stay clean. Both the patient and his daughter explained that the physician did not offer an alternative to daily IV placement when it was stated that the 42 PIV plan would not work. This is the policy of most facilities that assume the risk is too great to allow consideration of options reserved for patients with no, or an unknown, history of IVDA.

Options

1. Place a PIV each day and remove for 42 days.
   a. Pros
      i. Patient receives prescribed medication through the preferred route, and
      ii. No IV device in place, which eliminates risk of inappropriate use outside of the hospital.
   b. Cons
      i. Limited venous availability at Day 1,
      ii. Repeated damage to available veins is a higher risk than potential benefit, and
      iii. Repeated opportunities for bacterial invasion secondary to >42 holes in the patient's skin.

2. Default to daily intramuscular injections for 42 doses.
   a. Pros
      i. Eliminates need to find 42 viable vein sites, and
      ii. Eliminates potential misuse of IV device left in place.
   b. Cons
      i. Additional pain from multiple injections, and
      ii. Forty-two potential sites for infection.

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3. Switch to oral medication
    a. Pros
        i. Eliminates need to utilize outpatient services,
        ii. Least invasive option, and
        iii. Eliminates potential misuse of IV device left in place.
    b. Cons
        i. Physician reports there is no oral equivalent for the isolated bacteria, and
        ii. Continued growth of the abscess would impair mobility and risk infection of the heart valves.

4. Place PICC and admit to Skilled Care Unit with continuous observation
    a. Pros
        i. Allows consistent site for 42 infusions and lab draws,
        ii. Eliminates repeated IV or intramuscular trauma, and
        iii. Decreases likelihood of misuse.
    b. Cons
        i. Cost-prohibitive,
        ii. May not stop tampering, and
        iii. Places all responsibility on staff members and none on the patient.

5. Place PICC with tamper-evident technology (TET)
    a. Pros
        i. Allows consistent site for 42 infusions and lab draws,
        ii. Eliminates repeated IV or intramuscular trauma,
        iii. Decreased cost with each infusion compared with 42 daily PIVs or inpatient status with observation, and
        iv. Allows patient to assist in his own health care.
    b. Cons
        i. History of IVDA,
        ii. Easy access to venous system,
        iii. Infection and overdose risk, and
        iv. Program has not been developed at this facility.

After discussing with the primary physician, option 5 was chosen and a new program was developed and implemented in 4 days to meet this patient's unique needs.

TET

At the 2015 Association for Vascular Access Scientific Meeting held in Dallas, TX, 2 speakers presented a breakout session discussing IVDA and efforts to keep the lines tamper-resistant in the context of an outpatient infusion program.[1] After contacting one of the speakers a similar system was set up at our facility to accommodate our current patient situation and develop a plan to care for future patients with similarly complicated histories.

Process

According to the Infusion Therapy Standards of Practice, "Infusion therapy is provided with attention to patient safety and quality. Care is individualized, collaborative, culturally sensitive and age appropriate."[2] In collaboration with risk management experts, the patient safety officer, the outpatient director, the outpatient nursing staff, the postsurgical director, the postsurgical nursing staff, the Vascular Access Department staff and director, the primary physician, the Behavioral Health Department staff, security, the Emergency Department, house supervisors, and the patient a process was initiated to care for this patient while being realistic, responsible, and compassionate in our approach.

Phase 1: Risk Assessment

At the beginning of this plan we needed to ensure that the patient was getting his required medication on schedule. In this case, switching to intramuscular ceftriaxone for a few days was the option that was chosen by the patient and physician. The primary physician was given the option of allowing a PICC to be placed if TET could be connected to the device to monitor inappropriate use of the line between doses. Without a guarantee that the program could be implemented, the patient was asked if he would agree to a PICC placement with TET applied to the device. Both the physician and the patient agreed to move forward with the plan.

During the next 4 days the risk management and Legal Department personnel reviewed the risks to the hospital and to the patient vs the benefit completing the prescribed therapy. The patient safety officer and directors of the involved units were included in this early planning. A contract for the patient to sign that would include his responsibilities while the PICC was in place and the consequences of failure to comply was quickly developed. (See Appendix 1.)

A blank space was left at the bottom of the contract for the patient to write in his statement of when he last used IV drugs. This was not intended to be a declaration that the patient would not use any drugs not prescribed to him, but simply that he would not use, and had not used, IV drugs for the duration of his prescribed IV therapy. We do not require other ambulatory patients to declare they will remain drug-and-alcohol free during treatment. The goal in the short term is to successfully manage the IV therapy and that the PICC remaining in place and unsupervised would cause no harm. The hope in the long term would be to help the patient eliminate drug abuse of any kind, but that is true for all patients.

Signature lines were available for the patient and the witness. This agreement was in addition to the standard PICC informed consent document. An advantage of a small, independent hospital is the ability to swiftly adapt to patient needs. Quickly developing something like this within a large facility would be extremely difficult.

Phase 2: TET Development

In this phase the TET was developed and tested. A large sticker was adapted to fit over the needleless connector and a