A survey of the current use of peripherally inserted central venous catheter (PICC) in Swedish oncology departments

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To the Editor,

The advantages and disadvantages of peripherally inserted central venous catheters (PICC) compared to other central venous lines were recently reported in a systematic review of the literature [1]. In this report, we concluded that scientific evidence supporting the use of PICC is limited. Furthermore, there is a tendency towards an increased risk for deep venous thrombosis. These findings emphasize the importance of systematic follow-up of early and late catheter-related complications in patients with a PICC. There is, however, little information on current clinical practice regarding the use of PICC. We have therefore undertaken a national survey of the use of PICC in adult oncology departments in Sweden.

Material and methods

Data were collected using a study-specific questionnaire including 25 items concerning insertion, management and follow-up of PICC usage. The questionnaire was distributed by e-mail to the heads of all 23 adult oncology departments in Sweden.

Results

Twenty-two (96%) of 23 oncology departments contacted, responded and completed the questionnaire. Sixteen of the responders reported that they used PICC on a regular basis.

Of the 16 departments using PICC, two departments had more than 10 years of experience with PICC, and 10 departments had used PICC for 5–10 years. The remaining four departments had used PICC between one and five years. Half of the units stated that they insert more than 100 PICC annually. Only a minority (n = 3) had access to an operating theatre for insertion, and PICCs were predominantly placed by a registered nurse at all departments except one.

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Safety measures during catheter placement, such as full barrier precautions, were reported to be used at 14 departments. At 14 departments insertion of the PICC was guided by ultrasound. The most common reasons for starting a PICC service were that registered nurses are allowed to insert a PICC (n = 14), the hospital has a limited capacity for inserting other central venous lines (n = 12), PICC is cheaper than other central venous lines (n = 11), and a PICC is more comfortable for the patient (n = 11).

Nine of the 16 departments reporting the use of PICC have specific indications for the use of a certain type of central venous line. Ten departments reported that they have no recommended maximum PICC dwell time. Three departments allow a PICC to remain in situ for a maximum of 180 days, and at one department it is allowed to leave a PICC in place for as long as one year.

A majority (n = 15) of the departments reported having written guidelines for the management of a PICC, and 13 departments arrange regular education sessions for staff regarding the management of PICC. Ten departments carry out non-commercial register-based follow-up of PICC-related complications.

Discussion

This survey, which had a response rate of 96%, indicates that PICC is used extensively in Swedish oncology departments. Furthermore, it appears that this type of catheter is usually inserted by a registered nurse outside the operating or intensive care unit. These facts are in accordance with the statements of the responders that the main reason for starting a PICC program was the ability of specially trained registered nurses to manage the entire procedure on a regular ward, thus avoiding delay while waiting for an expensive physician-based service on the ICU or operating theatre. We are not aware of the reason for one third of the departments in this survey not using a PICC, but it could be the lack of scientific evidence favoring PICC use, or the presence of a well-functioning service where there is no delay in placement of other forms of central venous access such as a subcutaneous port. If there is a problem in obtaining central venous access in time, the first chemotherapy course is normally administered via a peripheral venous line. This is associated with higher risks for severe thrombophlebitis and extravasation injury.

It is well known that in order to create a safe routine for insertion and continuous management of central venous lines, it is essential to have a departmental program providing updated clinical guidelines, education and follow-up of routines [2]. An example of such a program was lately reported to result in a very low complication rate [3]. Furthermore, evidence-based care includes consideration of the risk for catheter-related complications in relation to planned length of therapy when choosing form of central venous access in the individual patient.

Even if the majority of departments using PICC had written guidelines for the management of a PICC and provided educational sessions, only 60% had a structured non-commercial follow-up system to capture malfunction, and early and late complications. Several departments lacked sufficient routines regarding selection of form of central venous access so as to increase patient safety and satisfaction.

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