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Satisfaction and Quality of Life Related to Chemotherapy With an Arm Port: A Pilot Study

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Abstract

Purpose: Placement of arm ports, or totally implanted venous access devices, is a common practice in our interventional radiology suite. We implant a miniaturized port in the upper arm for the provision of long-term chemotherapy. We hypothesized that there was general satisfaction with these arm ports and they have a minimal negative impact on quality of life. In this study we aimed to assess our hypotheses.

Methods: We surveyed subjects, who having previously received an arm port for chemotherapy to treat a malignancy, attended the interventional room for its removal. The survey assessed the port's effect on lifestyle, the degree of device-related pain, the acceptance of the port, and the willingness to have another port in the future.

Results: Survey responses from 77 subjects were reviewed. On a scale of 1 (most negative) to 10 (most positive), respondents indicated that the port system was a very positive enhancement to their treatment (satisfaction = 9.2 ± 2.0 and positivity = 8.8 ± 2.2). The port had little impact on daily activities. The mean score for the likelihood of choosing to have another port placed if additional treatment was required was 9.1 ± 2.1.

Discussion: The arm port in this study did not negatively impact subject satisfaction and quality of life for this cohort. Most subjects rated the device utility highly and felt that the port was a positive enhancement to their treatment, one that they would possibly utilise again in future, if need be.

Résumé

Objet : L'insertion d'un cathéter à chambre implantable ou d'un dispositif d'accès veineux entièrement implantable au niveau du bras est une intervention courante au sein de notre service de radiologie interventionnelle. Les dispositifs miniatures que nous implantons dans le bras servent à l'administration d'une chimiothérapie à long terme. La présente étude vise à confirmer l'hypothèse selon laquelle les cathéters à chambre implantable donnent généralement satisfaction et ont une incidence négative minime sur la qualité de vie des patients.

Méthodes : Nous avons sondé les patients qui se sont présentés à notre service de radiologie interventionnelle pour l'explantation de leur cathéter à chambre implantable après administration d'une chimiothérapie anticancéreuse. Le sondage visait à évaluer les répercussions sur le mode de vie, la douleur associée au dispositif, le degré d'acceptation et la mesure dans laquelle le patient serait prêt à recevoir un autre cathéter à chambre implantable au besoin.

Résultats : Nous avons analysé les réponses de 77 patients. À l'aide d'une échelle de 1 à 10 (où 1 correspondait à la réponse la plus négative et 10 à la réponse la plus positive), les répondants ont indiqué que le cathéter à chambre implantable avait grandement amélioré leur expérience de traitement (satisfaction: 9,2 ± 2,0 et positivité: 8,8 ± 2,2). Le dispositif avait eu peu d'incidence sur les activités quotidiennes. La probabilité selon laquelle le patient opterait pour un autre cathéter à chambre implantable en cas de traitement complémentaire a pour sa part obtenu une note moyenne de 9,1 ± 2,1.

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Discussion : Les cathéters à chambre implantable n'ont pas miné la satisfaction ni la qualité de vie de la cohorte à l'étude. La plupart des patients ont attribué une note élevée à l'utilité du dispositif. Ils l'ont perçu comme une façon d'améliorer le traitement et comme une option qui, au besoin, serait certainement envisagée de nouveau.

Key Words: Arm port system; Patient satisfaction; Quality of life; Interventional radiology

Radiology departments have become progressively more involved in the placement and management of venous access devices. In particular, there is now an expanded role in radiology for the implantation of vein port systems, also referred to as totally implanted venous access devices. Over the last decade, arm implantation of these ports has evolved into a very common procedure at our tertiary care, teaching hospital. We preferentially implant a single vendor, miniaturized arm port. The catheter diameter for this port is 5-F. Our local Cancer Centre prefers arm ports due to the familiarity they have with them and the long-term success of this device for intravenous chemotherapy. Preservation of the patient's peripheral and central veins for future use is also a consideration for a patient group that often receives vesicant infusions. All of the subjects in our study required an arm port for chemotherapy related to a malignancy.

We hypothesized that the device we have been using had been well received by the patients and did not impact their activities or their quality of life. We did not have any objective data to support this supposition. Thus, we sought to determine if the devices produced a positive or negative impact on the subjects' well-being and quality of life.

In reviewing the literature, we found several publications related to subject satisfaction and quality of life related to implantation of a vein port system. Marcy et al [1] produced a retrospective comparison of surgically implanted chest ports versus radiologically implanted arm ports. They used a high-level, self-designed, 8-question survey to evaluate the impact of port insertion at these 2 different anatomic locations. This publication revealed a statistical difference favoring arm port placement related to greater technical success at implantation, an easier implantation procedural process, and perceived superior cosmetic appearance of the arm port versus the chest port. Quality of life was improved by both devices. There were no statistically significant differences otherwise between the 2 implantation sites [1].

Nagel et al [2] performed a more detailed satisfaction and quality of life assessment for a large series of subjects with radiologically inserted chest ports. Using a self-designed survey, the authors determined that the chest ports utilised did not have a significantly negative impact on subjects' daily lives, but they did find that cosmetic outcome of the implant and the degree of pain associated with the device negatively affected subject quality of life [2].

Recently, Marcy et al [3] created a self-designed survey utilising extensive consultation with a broad spectrum of individuals including clinicians, scientific colleagues, and also included patient focus groups, to develop a validated survey tool for venous access devices. This survey was created and deployed in French. Initially, the authors utilised their 102-question survey but after a period of testing and revising of their questionnaire they settled on a 27 question survey, the Questionnaire for Acceptance of and Satisfaction with Implanted Central Venous Catheter (QASICC) [3]. Use of the QASICC survey to formally investigate a port related clinical scenario has neither been finalized nor published.

Methods

Using consensus, and expert opinion amongst the members of our venous access team, we created a self-designed survey aimed at assessing patient satisfaction with their miniaturized arm vein port. The survey also included questions targeted for assessment of the impact these arm ports may have on quality of life. This was not a validated survey tool and should be considered to be an audit of the quality of clinical care.

All participants in this study had received the same type of port system for their care, the Cook Vital Mini Titanium Port (Cook Medical Inc., Bloomington, IN). Details of the arm port insertion technique are available via other publications [4,5]. All of the respondents had their port inserted for the treatment of a malignancy. Insertion of the ports was performed under aseptic conditions utilising local anesthesia, as was the subsequent arm port removal. We are the only site in our region inserting arm vein ports and we subsequently remove all ports that we have implanted when the patient's treatment is completed. Demographic data and details related to each port were gathered from our Philips iSite Radiology, Picture Archive and Communications System (Philips Medical, Koninklijke Philips Electronics N.V., Best, The Netherlands)

The University of Saskatchewan Biomedical Research Ethics Committee approved the self-designed survey. All subjects gave informed consent for collection of this data and agreed to complete the survey prior to having their port removed.

Between February 1, 2013, and June 30, 2014 (17 months), patients were asked to complete the survey prior to the removal of their port while waiting in the preprocedural preparation area of our department. Subjects who consented received the survey in paper format. One of the authors (B.B.) collected and tabulated all the surveys.

The survey we deployed consisted of a variety of questions pertaining to the cosmetic appearance of the port, the nature and degree of any self-perceived emotional responses to the port, the effects of the port on daily activities, the pain associated with insertion and utilisation of the device, the