

# A Cross-Sectional Study of Patients' Satisfaction With Totally Implanted Access Ports

Christoph Minichsdorfer, MD, PhD, Thorsten Füreder, MD, Bruno Mähr, MD, Anna S. Berghoff, MD, PhD, Helga Heynar, Anne Dressler, MD, Michael Gnant, MD, FACS, Christoph C. Zielinski, MD, and Rupert Bartsch, MD



© iStock.com/KatarzynaBialasiewicz

**Background:** Totally implanted access ports (PACs) are valuable tools for the treatment of patients with cancer because they ease the administration of chemotherapy, stem cells, and supportive care by reducing the rate of peripheral vein punctures.

**Objectives:** The purpose of this study was to evaluate the satisfaction and impairments of activities of daily living of ambulatory patients with PAC systems receiving chemotherapy.

**Methods:** This cross-sectional, questionnaire-based study evaluated 202 patients with PAC systems in a comprehensive cancer center and cancer rehabilitation center. From November 2012 to August 2013, patients were invited to answer a questionnaire concerning quality of life and satisfaction with their PAC devices.

Data regarding PAC-related complications were collected retrospectively by searching patients' medical history.

**Findings:** A total of 202 patients with 230 PAC devices were included. Median time from PAC implantation to inclusion in the study was nine months. Surgical complications occurred in some cases, with bleeding and hematoma being the most frequently observed events. Late complications consisted of infections, drug extravasation, PAC malposition, PAC malfunction, and thrombosis. A third of the patients reported that their PAC interfered with activities of daily living. However, most agreed that PAC systems alleviated the burden of chemotherapy administration, and the vast majority said they would choose the implantation of a PAC system for chemotherapy administration again.

Christoph Minichsdorfer, MD, PhD, is a resident, Thorsten Füreder, MD, Bruno Mähr, MD, and Anna S. Berghoff, MD, PhD, are doctors, and Helga Heynar is an oncology nurse, all in the Comprehensive Cancer Centre at the Medical University of Vienna in Austria; Anne Dressler, MD, is a doctor in the Comprehensive Cancer Center at the Medical University of Vienna in Austria; and Michael Gnant, MD, FACS, is a professor in the Department of Surgery, Christoph C. Zielinski, MD, is a professor in the Department of Medicine, and Rupert Bartsch, MD, is a medical oncology consultant in the Comprehensive Cancer Centre, all at the Medical University of Vienna in Austria. The authors take full responsibility for the content of the article. The authors did not receive honoraria for this work. The content of this article has been reviewed by independent peer reviewers to ensure that it is balanced, objective, and free from commercial bias. No financial relationships relevant to the content of this article have been disclosed by the authors, planners, independent peer reviewers, or editorial staff. Minichsdorfer can be reached at christoph.minichsdorfer@meduniwien.ac.at, with copy to editor at CJONEditor@ons.org. (Submitted March 2015. Revision submitted June 2015. Accepted for publication June 24, 2015.)

Key words: totally implanted access ports; quality of life; catheter-associated infection

Digital Object Identifier: 10.1188/16.CJON.175-180

Totally implanted access ports (PACs) ease the administration of chemotherapy, stem cells, and supportive care by reducing the rate of peripheral vein punctuations. For this reason, they are valuable tools for the treatment of patients with cancer. However, PAC-related complications may occur, with catheter-related infections being the most frequent and threatening (Beckers, Ruven, Seldenrijk, Prins, & Biesma, 2010). PAC infections typically are classified as surgical site, pocket, or bloodstream infection (Chang et al., 2013; Penel et al., 2007; Touré et al., 2012). A prospective study by Biffi et al. (2004) of 376 patients

with cancer showed rates of 0.5% for pocket infections, 0.8% for port-related bacteremia, and 1% for thrombosis. Rates in different studies showed a wide distribution, ranging from 0%–22% for catheter-related infections and 0%–50% for PAC-associated deep vein thrombosis (Ignatov et al., 2009; Narducci et al., 2011; Seok et al., 2014). In none of the previous studies was information collected regarding the satisfaction of patients with their respective PACs. This led the researchers to develop a unique questionnaire to inquire about patient satisfaction while retrospectively assessing PAC-related complications.