Management of venous port systems in oncology: a review of current evidence.

BACKGROUND: Over the last decades, many changes have occurred in oncology with new chemotherapy combinations and more complex application schemes becoming available. Central venous catheters and implantable venous port systems have become widely used and have facilitated the problem of vascular access. However, important complications are associated with permanent central venous catheters.

Material and methods: This review summarizes evidence on venous port system use published in Medline up to February 2007. Moreover, recent guidelines for the prevention and management of catheter-related infections issued by the Infectious Diseases Society of America, the American College of Critical Care Medicine, the Society for Healthcare Epidemiology of America, the Center for Disease Control and Prevention, Atlanta, and the Infectious Diseases Working Party of the German Society of Hematology and Oncology are included.

RESULTS: Sterile precautions are essential when implanting and accessing port systems. Infections must be treated with adequate antimicrobial therapy. Catheter-related thromboembolic complications were found at a rate of 12-64% in retrospective studies. Five current clinical trials investigated the effect of prophylactic anticoagulation with either low molecular weight heparin or warfarin in cancer patients with central venous devices. On the
basis of these results, routine anticoagulation cannot be recommended. CONCLUSIONS: This article reviews the current literature on long-term complications of venous port systems, focusing on infection and thrombosis. In addition, it summarizes the evidence regarding routine maintenance of port systems in follow-up care.