Chapter 5

CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS IN PEDIATRIC HEMATOLOGY AND ONCOLOGY PATIENTS

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INTRODUCTION

The Central Line-Associated Bloodstream İnfection (CLABSI) is a surveillance definition used by the United States' Centers for Disease Control and Prevention in relation to a primary bloodstream infection in a patient who had a central line in place for at least 48 hours prior to the onset of symptoms and the bloodstream infection cannot be attributed to another site (CDC, 2017). Central venous catheters (CVCs) are the most preferred line for pediatric hematology and oncology (PHO) patients for the regular administration of cytotoxic drugs, antibiotics, blood products other intravenous medications and the collection of blood samples. CLABSIs are the most serious catheter insertion complication (Fratino et al., 2005). CLABSIs increase the morbidity and mortality rate, the duration of the hospital stay, the use of antibiotics, and medical expenses (Kinnaman, 2007; Schwebel et al., 2012). Neutropenia, corticosteroid intake, suppressed immune system, graft versus host disease (GVHD), and hyposplenism in the PHO population may increase the risk of CLABSI. It is very important to follow the CLABSI rates closely and take precautions to prevent infections (Worth & Slavin, 2009).

The use of CVCs in healthcare is crucial to shortening the hospitalization process, increasing patient safety, and reducing costs in the treatment of pediatric hematology and oncology (PHO) patients (Arora, Roberts, Eden, & Pizer, 2010; Heidari Gorji, Rezaei, Jafari, & Yazdani Cherati, 2015). The central venous catheter improves treatment compliance by facilitating treatment in children. It rescues the stratum created by finding the intravenous area of application for the child and his family. Quality of life is rising and family confidence in medical treatment and care is increasing (Tremolada et al., 2005). Central venous catheters usually remain in place for a longer period than other venous access devices in PHO patients. For such indications, a Hickman-Broviac line, a PICC line, or a Port-a-Cath may be considered because of their smaller infection risk. However, the greatest risk is bloodstream infection because the child has direct access to the

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