Locking of venous port systems in breaks between infusion cycles: heparinized or normal saline?

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BACKGROUND. For many years, the use of heparinized saline was considered as standard practice for flushing and locking of implantable venous port systems, although this approach is not substantiated. As an alternative to heparin solution, one can use a normal saline.
MATERIALS AND METHODS. A literature analysis was carried out, including practical recommendations for the care of port systems, scientific articles and clinical studies on the comparative effectiveness and safety of heparinized and normal saline for locking port systems in adult patients.
RESULTS. Long-term use of even low doses of heparin can lead to bleeding and thrombocytopenia, especially in dialysis and cancer patients, which can lead to serious or life-threatening complications. The use of heparin is associated with errors in dosage, the formation of *S. aureus* biofilms, and incompatibility with other drugs. The results of retrospective and randomized prospective studies indicate that the use of normal saline for locking of port systems is effective and safe and is not associated with an increased risk of complications.
CONCLUSIONS. In patients of various profile (with malignant tumors and other pathologies), the use of a normal solution for locking implantable venous ports instead of a heparinized solution is effective and safe. Refusal of heparin eliminates the risks associated with its use, saves time and costs for medical staff and patients.

KEY WORDS: venous port systems, locking, heparin, normal saline.