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Prevention of venous thromboembolism in breast cancer surgery: a systematic review

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Background: Surgical oncoplastic techniques and immediate autologous reconstruction for breast cancer are increasing. Previous studies have demonstrated significant variation amongst surgeons regarding the use of low molecular weight heparin (LMWH) for the prevention of venous thromboembolism (VTE) in patients undergoing breast cancer oncoplastic surgery with/without reconstruction. The aim of this study was to provide a current analysis of evidence assessing the role of VTE prophylaxis in breast cancer surgery.

Methods: This study was performed according to PRISMA guidelines. PubMed, Embase and Google Scholar were searched systematically to identify studies assessing the role of prophylactic VTE in patients undergoing breast cancer surgery.

Results: Thirteen studies involving 14 056 patients met the inclusion criteria. All but one study were retrospective cohort studies. One study compared prospectively collected data with retrospective data. Overall, the incidence of VTE in patients undergoing elective breast surgery remains low (<1%) although more recent studies have demonstrated higher incidence of DVT/PE in patients with an elevated body mass index (BMI) and those undergoing immediate autologous reconstructive procedures (1–4%). The majority

of studies demonstrate that the use of VTE prophylaxis does not increase haematoma formation rates. Intra-operative sequential compression devices and early ambulation are recommended for all patients.

Conclusions: There remains a paucity of robust evidence regarding the use of VTE prophylaxis in patients undergoing breast cancer surgery. VTE prophylaxis should be considered in high risk patients undergoing reconstructive procedures.

Keywords: Breast; cancer; haematoma; surgery; venous thromboembolism prophylaxis

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Footnote

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