AB146. SOH22ABS081. The prevalence of venous thromboembolism in breast surgery: a systematic review and meta-analysis

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Background: Venous thromboembolic events (VTEs) after breast surgery significantly impacts post-survivorship quality of life. This burden, in the era of modern breast surgery, remains poorly defined. The resultant blanket prescribing of VTE prophylaxis may cause unnecessary harm.
Methods: The PROSPERO registered review (CRD4202 1250970) primarily assessed the prevalence of deep vein thrombosis (DVT), pulmonary embolism (PE) and VTE through pooling of weighted sums from included studies. Subgroup analysis on different types of breast surgery and reconstructive techniques was performed using a random effects model to estimate summary hazard ratios and 95% confidence intervals (CIs).
Results: A total of 104 studies were included in this review. The aggregate prevalence of DVT, PE and VTE were 0.18% (95% CI: 0.1–0.3), 0.12% (95% CI: 0.06–0.18) and 0.44% (95% CI: 0.33–0.55) respectively. Patients who underwent breast conserving surgery (BCS) were significantly less likely to have a VTE event (RR 0.53, 95% CI: 0.34–0.82, P=0.005, I^2=69%) compared to those undergoing a mastectomy. Patients who underwent an implant-based reconstruction (IBR) had a significantly lower risk of DVT (RR 0.41, 95% CI: 0.27–0.62, P<0.0001, I^2=59%) and PE (RR 0.39, 95% CI: 0.30–0.50, P≤0.00001, I^2=0%) as compared to their autologous reconstruction counterparts. There was no significant difference in VTE rates between patients who underwent a mastectomy alone and those who had concurrent immediate reconstruction. (RR 0.76, 95% CI: 0.32–1.81, P=0.53, I^2=96%).
Conclusions: Despite its low prevalence in breast surgery, this review demonstrated significant inter-procedural variability in VTE rates. Targeted prescribing of VTE prophylaxis after breast surgery should be adopted to prevent overtreatment.
Keywords: Breast reconstruction; deep vein thrombosis (DVT); mastectomy; venous thromboembolism; venous thromboembolic event prophylaxis (VTE prophylaxis)

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Footnote

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Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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