

Extended Abstract

Effect of Caprini Risk Assessment Model integration into electronic medical record on surgical venous thromboembolism prophylaxis

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Objective

To compare the proportion of patients who receive appropriate perioperative venous thromboembolism (VTE) chemoprophylaxis before and after integration of the Caprini risk assessment model (RAM) into the electronic medical record (EMR). Secondary outcomes include VTE incidence within 6 weeks postoperatively, estimated blood loss (EBL), transfusion, return to the operating room or other procedure due to bleeding within 30 days postoperatively, and readmission, clinic visit, or emergency room visit for bleeding within two weeks postoperatively.

Methods

This is a retrospective cohort study of non-oncologic gynecologic patients undergoing scheduled, major elective surgery. The Caprini RAM was integrated into the EMR for all non-oncologic gynecologic surgeries to determine VTE risk as part of a larger enhanced recovery protocol (ERP). Patients with a preoperative Caprini score of 5 or greater were automatically recommended within the EMR case order set to receive preoperative heparin. Consecutive patients undergoing surgery at least 3 months prior to ERP integration and at least three months after ERP integration were included. A sample size of 83 subjects in each group (166 total) was calculated

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to provide 80% power and show a 20% increase in appropriate administration of VTE prophylaxis with an alpha of 0.05.

Results

Eighty-three subjects were included in both the pre- and post-intervention groups. Median [IQR] Caprini scores were 7 [6-9] pre- and 6 [5-7] post-Caprini (p=0.116). Heparin was appropriately utilized in 24 (28.9%) pre-Caprini and 39 (47.0%) post-Caprini (p=0.016). There were no differences in EBL, transfusions, or other secondary outcomes.

Conclusion

Integrating the Caprini RAM into the EMR improved appropriate utilization of pre-operative heparin prophylaxis. Active involvement of the surgical team is important for meaningful change to occur in practice despite changes made to electronic order sets.

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