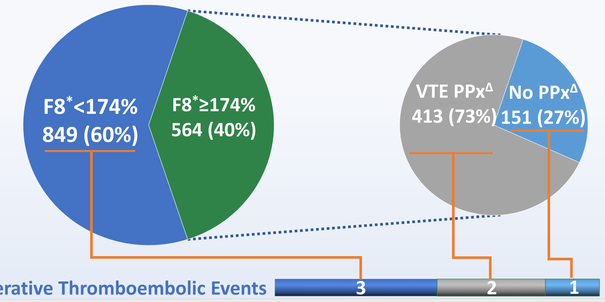
Cleveland Clinic

FACTOR VIII: A POTENTIAL RISK FACTOR FOR VENOUS THROMBOSIS AFTER BARIATRIC SURGERY?

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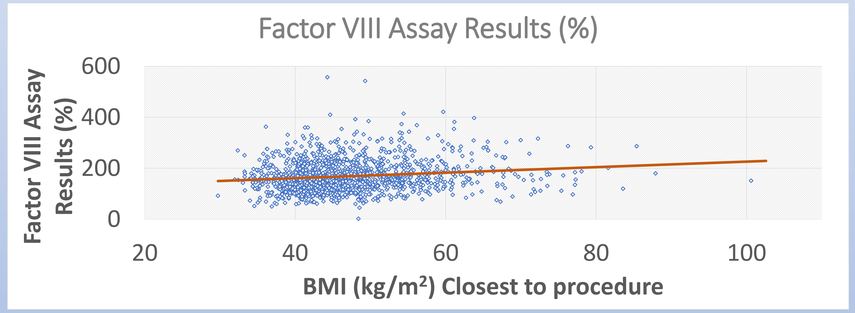
INTRODUCTION: Venous thromboembolism (VTE) is a serious complications after bariatric surgery. Risk assessment models have been created to calculate postoperative VTE risk and guide the use of extended thromboprophylaxis after discharge. These are yet to be unified in terms of risk factors, timing, agent or duration of thromboprophylaxis. Outside the current VTE risk predictor models, we aimed to examine the role of elevated coagulation factor VIII as a potential risk factor to determine VTE risk and thromboprophylaxis use.

METHODOLOGY: A retrospective review was conducted of all patients who underwent primary laparoscopic sleeve gastrectomy or laparoscopic Roux-en-Y gastric bypass from June 2020 to May 2023 in Cleveland Clinic hospitals in Ohio. Patients who had a measured preoperative factor VIII level, a part of our internal preoperative protocols during the time-period, were included in the study. We excluded all patients who were on chronic anticoagulation preoperatively. Factor VIII level ≥ 174% was considered elevated.



#	F8* level	VTE Score**	VTE** PPxΔ	Days Post-op	Complication
1	Low	Low	No	12	Portal Vein Thrombosis
2	Low	Low	No	12	Pulmonary Embolism (PE)
3	Low	Low	Yes	26	PE
4	High	High	No	5	PE
5	High	Low	Yes	23	PE + Pelvic Vein Thrombosis
6	High	High	Yes	21	PE

*F8: Factor VIII **Based on Cleveland Clinic Calculator ΔPPX: Prophylaxis



RESULTS: Final analysis was done on 1,413 patients with an available preoperative factor VIII level, and postdischarge extended thromboprophylaxis was prescribed overall for 615 patients (43.5%).
Based on the Cleveland Clinic VTE risk calculator, 384 (27%) patients had an elevated risk for postdischarge VTE. **In total, 564 patients (40%) had elevated factor VIII levels.** In the multivariate regression model, with every 1 unit increase in BMI, the factor VIII level increased by 1.4% (95% CI 1.1 – 1.8), P-value <0.001. Of the 564 patients with elevated factor VIII, postdischarge extended thromboprophylaxis was prescribed for 413 patients (73%). **In the 30-day postoperative period, thrombotic events occurred in 6 patients (0.4%) with a median of 16.5 days post-surgery**. 3 out of these 6 patients had normal preoperative factor VIII levels. 3 out of these 6 patients had an elevated factor VIII level; 2 of them were discharged on extended thromboprophylaxis. Only one patient who developed VTE, had normal VTE risk scorevbased on the calculator but elevated factor 8 (Patient 5).

CONCLUSION: Forty percent of patients with obesity undergoing bariatric surgery have an elevated factor VIII. In the current practice, the overall rate of thrombotic events post bariatric surgery is low. Findings of this study does not support the role of factor VIII as a major risk factor in predicting thrombotic events in patients undergoing bariatric surgery.