Effect of cross-sex hormone therapy on venous thromboembolism risk in male-to-female gender-affirming surgery: A systematic review

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BACKGROUND

- An estimated 1.4 million Americans identify as transgender, seeking hormone treatment and surgery to live as their identified gender.
- Cross-sex hormone therapy (CSHT) typically consists of various estrogen formulations that confer varying risks of venous thromboembolism (VTE).
- Estrogen, the cornerstone of gender-affirming therapy for male-to-female (MTF) transgender patients, is procoagulable.
- The benefit of suspending estrogen before gender-affirming surgery (GAS) to prevent venous thromboembolism (VTE) is unclear.

PURPOSE

- Currently, there is no standard practice by surgeons regarding the preoperative GAS hormone regimen of MTF patients to minimize thromboembolic postoperative complications.
- This review's purpose is to examine the current literature on VTE occurring in MTF transgender patients on CSHT specifically when undergoing various gender-affirming surgeries - facial feminization surgery (FFS), top surgery (TS), and bottom surgery (BS) - to understand how evidence-based recommendations regarding perioperative hormone regimens can be established to improve clinical outcomes.

METHODS & RESULTS

- We performed a systematic review to examine the incidence of VTE in MTF patients undergoing GAS. Seven studies met inclusion criteria.
- Together, these studies included 1,500 patients and found 60 total VTEs.
- Twelve of these VTE events were attributed to GAS, of which 10 were associated with BS, one was associated with FFS, and one was associated with a patient who received BS and FFS in the same period.
- Three of the seven studies detailed a CSHT perioperative regimen which suspended CSHT before surgery; one study tapered CSHT to lower levels before surgery; the remaining three studies did not specify a CSHT perioperative regimen.

CONCLUSION

- Taken together, our findings demonstrate a lack of compelling data supporting CSHT suspension prior to GAS for the purpose of VTE prophylaxis - particularly when other effective intraoperative prophylactic measures are already standard of surgical care.
- Patients lacking other clotting risk factors may discuss with their surgeons whether suspending estrogen prior to surgery is appropriate for them.
- Future studies are warranted in order to further evaluate VTE risk based on patient age, type of surgery, operating time, prophylactic measures, follow-up time, and CSHT perioperative regimens.