

Introduction

- Dilation and evacuation (D&E) is safer and more effective than labor induction for uterine evacuation of patients with second-trimester intrauterine fetal demise (IUFD)¹.
- Patients with IUFD are at higher risk of complications, including hemorrhage and disseminated intravascular coagulation (DIC), compared to patients undergoing D&E for other indications².
- We aimed to describe outcomes, rates of complications, and associated risk factors for patients undergoing D&E for IUFD at our institution.

Methods

- A single-institution retrospective matched cohort study
- Case: Patients who presented for second-trimester D&E between 1/1/2019-5/31/2021
- Control: Two sequential induced 2nd-trimester D&E matched per case by cesarean delivery history, maternal age, and gestational age (GA).
- Patient demographics, history, GA, coagulation studies, mean quantitative blood loss (QBL), and intra-/post-operative complications information were collected.
- Rates and effect sizes were calculated using descriptive statistics and tested for associations using chi-square analyses or Fisher's exact test.

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Results

- 1390 total case records reviewed → 137 listed demise as indication
- 66 records were excluded for GA by best dating <14 weeks → 64 cases included in analysis
- 128 controls were matched

Characteristic	Median (Range) or N1 (%)	Median (Range) or N2 (%)	p-value
Maternal Age	32 years (16, 43)	31 years (17, 45)	0.315
Gestational Age (GA)	17.71 weeks (14.14, 25.71)	18.14 weeks (14.00, 23.71)	0.830
GA Size and Date Discrepancy ≥2 Weeks	32 (45.1%)	N/A	N/A
Body Mass Index (BMI)	29.3 (18.51, 54.31)	28.3 (17.8, 62.8)	0.276
Gravidity	4 (1,13)	3 (1,11)	0.236
Parity	2 (0, 9)	2 (0, 7)	0.066
History of Cesarean Delivery	15 (23.4%)	30 (23.4%)	1.000
History of Diabetes Mellitus	6 (9.4%)	3 (2.3%)	0.030
History of Hypertension	8 (12.5%)	8 (6.3%)	0.140

Outcomes	n1 (%)	n2(%)	p-value
Post-operative disseminated intravascular coagulation (DIC)	6 (9.4%)	0 (0%)	0.001
Hemorrhage after procedure	8 (12.5%)	6 (4.7%)	0.050
Mean quantitative blood loss (QBL)	195.0mL	150.2mL	0.083
Administration of ≥ 2 uterotonics	10 (15.6%)	5 (3.9%)	0.004

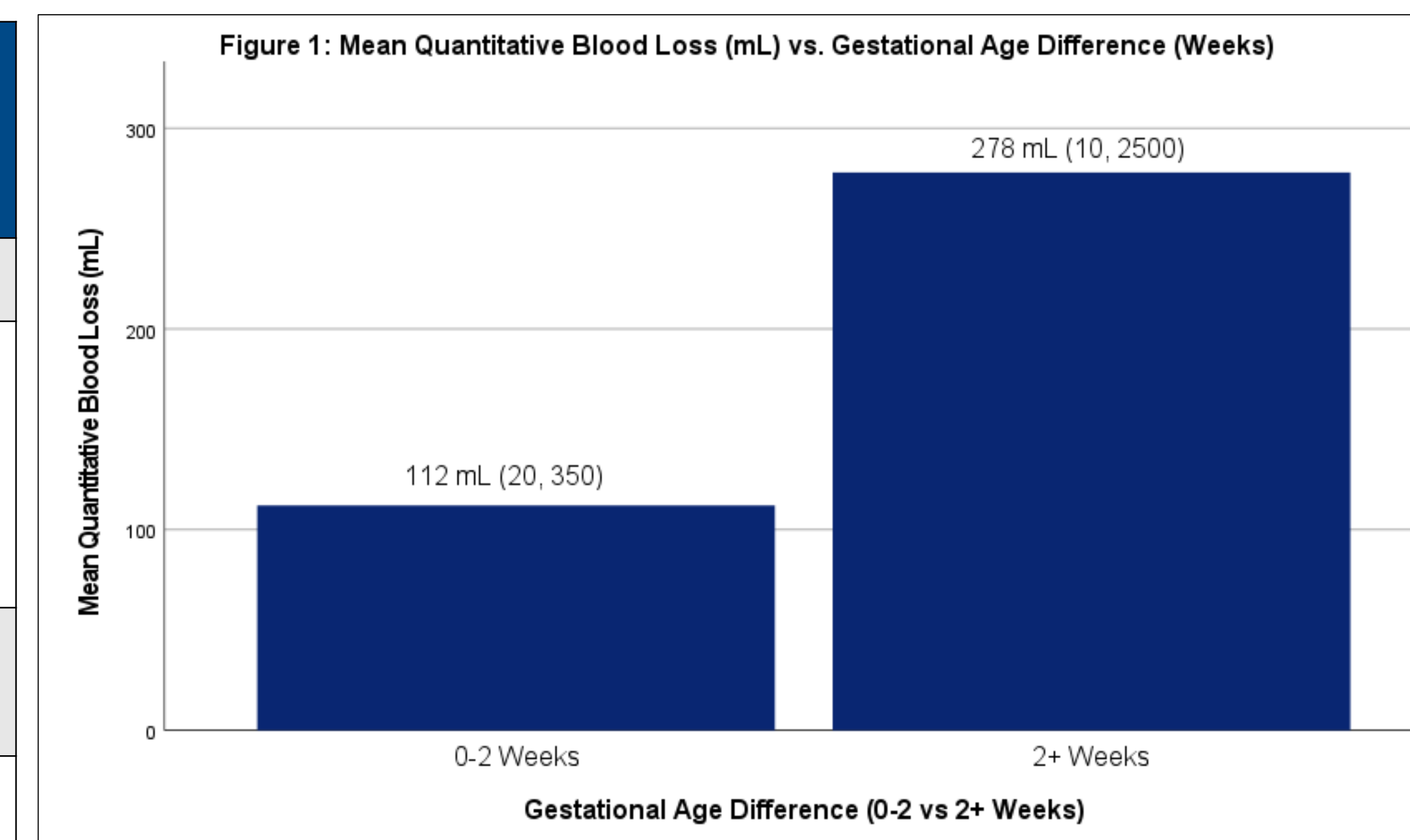


Fig 1: Differences in mean modified quantitative blood loss (QBL) between patients with a fetal size vs best gestational age (GA) dating discrepancy of <2 wks vs ≥2 wks, p = 0.861.

Conclusions

- **Our DIC rate (9.4%) in patients undergoing D&E for IUFD is higher than those previously published**, including Kerns et al. (2019) whose absolute risk of DIC or hemorrhage was <2% and Bridges et al. (2020)³ whose rate of perioperative transfusion or readmission for bleeding was <4%.
- **Mean QBL is greater for those with a GA size and date discrepancy of ≥2 weeks.**
- **No statistically significant difference in hemorrhage or QBL in IUFD D&E compared to induced termination**

Limitations

- Single-institution, retrospective design
- Relatively small sample size and low frequency of outcomes of interest

Future Directions

- Future studies should identify patient-level characteristics associated with increased DIC/hemorrhage risk and use of universal pre- and post-operative coagulation studies for patients with IUFD undergoing D&E

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References

- [1] Strauss LT, Gamble SB, Parker WY, Cook DA, Zane SB, Hamdan S. Abortion surveillance—United States, 2004. *MMWR Surveillance Summaries*. 2007;56(SS-12):1–33.
- [2] Kerns JL, Ti A, Aksel S, Lederle L, Sokoloff A, Steinauer J. Disseminated Intravascular Coagulation and Hemorrhage After Dilation and Evacuation Abortion for Fetal Death. *Obstet Gynecol*. 2019 Oct;134(4):708-713.
- [3] Bridges KH, Wolf BJ, Dempsey A, Ellison WB, Williams DY, Wilson SH. Maternal and procedural factors associated with estimated blood loss in second trimester surgical uterine evacuation: a retrospective cohort analysis. *Int J Obstet Anesth*. 2020;43:65-71.