SOCIETY of FAMILY PLANNING
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Use of an algorithm to determine IV sedation dosing during first-trimester surgical abortion

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Project abstract

Background and significance: First trimester surgical abortion is associated with moderate pain, even when IV sedation is administered. When a standard dose is applied to all patients, this may result in many patients receiving inadequate analgesia. Multiple factors such as weight, obesity, alcohol, drug use, ethnicity, and pre-operative anxiety are known to affect response to and metabolism of the drugs used for IV sedation.

Objectives: To test an algorithm for determining IV sedation dosing that takes individual factors into account in patients undergoing first trimester surgical abortion.

Study design and measurements: This will be a randomized, single-blinded, controlled trial comparing pain scores in patients undergoing first trimester surgical abortion, who receive IV fentanyl and midazolam either according to current standard practice or according to an algorithm that determines dose based on several individual factors including weight, BMI, airway concerns, race, alcohol and drug use, and pre-procedure anxiety. Patients will be recruited from Planned Parenthood League of Massachusetts (PPLM). The primary outcome will be immediate post-procedure pain scores on a 21-point pain scale from 0-100. We hypothesize that pain scores will be reduced by one-third using this algorithm. A sample size of 83 patients in each arm, based on a power of 80% with alpha of 0.05, will be required to detect this difference. Secondary outcomes will include pain scores with cervical dilation and post-procedure, subjective pain ratings at the same time points, need for additional doses of medication, incidents of side effects and adverse events, recovery room time, patient satisfaction with pain control, and physician assessment of and satisfaction with pain control.

Study implications: Pain can negatively affect patients' experiences with abortion. We hope to show that a simple and easy-to-use tool can result in improved pain control during first trimester abortion without increasing side effects or adverse events.

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