Standardizing early aspiration abortion complication definitions and tracking: Testing an evidence-based framework

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Background

National patient safety tracking frameworks for identifying procedural complications for non-abortion procedures define adverse events by diagnoses (ICD codes), treatments (CPT codes) and outcomes which include uniform definitional criteria. Published data on first-trimester aspiration abortion-related complication diagnoses and treatments range from 1.3% to 4.4% (+/- 1%) are based on data from nine peer-reviewed papers with a combined sample size of 180,710 abortion aspiration procedures published between 1990-2009.

Wide variation exists across these nine studies in 1) the confounding of immediate and delayed abortion complications; 2) the definition of major and minor complications; 3) the definition of the complication type; 4) the criteria for treatment of post-abortion pain/bleeding symptoms distinct from hemorrhage or hematometra; 5) the use of "reaspiration" as a diagnosis and a treatment; 6) the lack of diagnostic criteria that includes etiology or confirmatory data to describe a particular diagnosis; and 8) lack of specificity in describing patient outcomes.

Purpose of study

The purpose of this study was to develop and evaluate a standardized method of assessing immediate and delayed abortion-related complications based on national patient safety methods for non-abortion procedures.

Methods

We are evaluating a systematic method for defining and tracking early aspiration abortion (<14 weeks) incidents as part of a larger IRB-approved study of early aspiration abortion provision outcomes. We evaluated a minimum dataset and standardized coding methods developed by expert clinician consensus and quality improvement experts reflecting a ten standardized coding methods developed by expert clinician consensus and quality improvement experts reflecting a ten

This methodology reflects a national model of adverse event reporting elements for monitoring immediate and delayed incidents associated with abortion procedures and includes post-abortion patient tracking methods (e.g., patient calls or visits and outside provider reports). Between 2007-2010, this standardized diagnosis, treatment and outcome process was used to report incidents by 107 abortion clinicians performing first-trimester aspiration abortion procedures on 7,423 patients.

Results

Major findings from this empirically tested model:

- Differentiation of incidents by incident type:

  | Abortion-related complications include cases where there is a confirmed diagnosis of incomplete abortion, failed abortion, hemorrhage/ excessive bleeding, hematometra, infection, cervical injury, uterine perforation, symptomatic intrauterine material (SIM), anesthesia-related complication, or an "other" diagnosis determined by the study's safety monitoring board to be abortion-related (Rate = 1.3%, n=96).

- Non-abortion-related incidents include concurrent medical problems which are diagnosed and/or treated at the time of the abortion procedure (e.g., ectopic or molar pregnancy, pre-existing medical condition, infection present at the time of the procedure, and bleeding or hemorrhage secondary to anemia or uterine abnormality) (Rate = 0.3%, n=23).

- Severe incidents include cases in which a patient self-refers to a hospital but does not receive an abortion-related diagnosis or treatment (e.g. observation only) (Rate = 0.1%, n=7).

- Specification of the timing of the abortion-related complication:

  | Immediate: incident occurs during the procedure, or while the patient is recovering (0.2%, n=16 immediate complications).

- Delayed: incident occurs after the patient leaves the clinic and up to 4 weeks after the procedure (1.1%, n=80 delayed, confirmed complications).

- Specification of the definition of major abortion-related complication: Defined as those "complications requiring abortion-related surgeries, transfusion or hospitalization." None have occurred.

- Standardized complication diagnoses with etiology and confirmatory criteria for:

  - Incomplete abortion, failed abortion, hemorrhage and hematometra;

- Post-abortion pain/bleeding symptoms (SIM) distinct from hemorrhage or hematometra;

- Improved precision and specificity in the estimation of abortion-related complication diagnoses.

- The most frequently reported complications were SIM (post-abortion pain/bleeding that did not meet the criteria for hemorrhage, 0.4%, n=28, hematometra (0.2%, n=12) and incomplete abortion (0.3%, n=25).

- Clarification of reaspiration as a treatment for incomplete abortion, SIM (patient or provider preference), or hematometra.

Conclusion

With improved precision and specificity in defining abortion-related incidents by diagnosis, treatment and outcomes, all complication rates associated with early aspiration abortion procedures performed were lower than published rates.

This systematic framework for defining and tracking abortion complications across the continuum of care will allow evidence-based comparisons with national clinical effectiveness assessment standards for other common, low-risk, outpatient procedures and can be used in all settings including primary care sites.

References


16. Metcalfe, J.L., et al., Reaspiration as a treatment for incomplete abortion, SIM (patient or provider preference), or hematometra.