

Utility of the Vaginal Exam in First Trimester Pain or Bleeding



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Vignette

You are working a busy afternoon shift in EM-2, and have just completed your tenth pelvic exam of the day, when you go in to see yet another patient with a pelvic complaint. You encounter a pleasant, 25-year-old woman who is nine weeks pregnant with a very desired pregnancy. She reports light vaginal bleeding without passage of tissue for the last six hours. She denies any lightheadedness or dizziness and reports only mild, intermittent, lower abdominal cramping. She has only gone through two pads since the bleeding began.

On exam she has stable vital signs has no abdominal tenderness to palpation. Her bedside ultrasound reveals a live IUP with a heart rate of 150. Her quantitative HCG is 8,000 and her blood type reveals that she is A positive. You present the patient to your attending and show her the ultrasound images. When she asks you what the pelvic exam revealed, you admit that you haven't done it yet and dutifully trudge back to patient's room like a child whose been sent to the principal's office.

The pelvic exam reveals a closed cervical os with minimal blood in the vaginal vault and the patient ends up being discharged with bleeding precautions. As you bid her farewell, you wonder if you really needed to do that pelvic exam at all. You're pretty sure the patient didn't enjoy it and you certainly could have done without it, and you wonder if there's any evidence to support or refute the utility of the pelvic exam in the evaluation of vaginal bleeding in early pregnancy. You vow to do some digging to support your hypothesis that it is an unnecessary, and uncomfortable, waste of time...

PICO Question

Population: Pregnant women <20 weeks gestational age with vaginal bleeding or abdominal pain

Intervention: Omission of pelvic (speculum and/or bimanual examination in the ED

Comparison: Standard of care, including full pelvic examination

Outcome: Change in management or disposition, missed ectopic pregnancy, need for intervention (e.g. manual vacuum aspiration, dilatation and curettage)

Search Strategy

PubMed was searched using the terms “((pelvic OR vaginal) AND examination) AND early pregnancy” limited to clinical trials (<https://tinyurl.com/yda24s5t>). This resulted in 74 citations, from which four articles were chosen.

Articles

Article 1: Seymour A, Abebe H, Pavlik D, Sacchetti A. Pelvic examination is unnecessary in pregnant patients with a normal bedside ultrasound. Am J Emerg Med. 2010 Feb;28(2):213-6.

ANSWER KEY

Article 2: Hoey R, Allan K. Does speculum examination have a role in assessing bleeding in early pregnancy? Emerg Med J. 2004 Jul;21(4):461-3.

ANSWER KEY

Article 3: Hoey R, Allan K. Does speculum examination have a role in assessing bleeding in early pregnancy? Emerg Med J. 2004 Jul;21(4):461-3.

ANSWER KEY

Article 4: Johnstone C. Vaginal examination does not improve diagnostic accuracy in early pregnancy bleeding. Emerg Med Australas. 2013 Jun;25(3):219-21.

ANSWER KEY

Bottom Line

Vaginal bleeding and abdominal pain are frequent complaints seen in the ED during early pregnancy. Typical evaluation consists of a pelvic ultrasound to confirm the presence of an intrauterine pregnancy (IUP), often accompanied by a pelvic examination (speculum and bimanual) to evaluate the extent of bleeding and to confirm a closed cervical os. Give the time consumed performing the pelvic examination and the perceived discomfort experienced by the patient, some have called into question the utility of this portion of the work-up.

Unfortunately, there is little research into this question, and what evidence exists is mostly of low quality. Three prospective observational studies were identified, though two of these ([Johnstone 2013](#), [Hoey 2004](#)) were severely limited by the lack of a pelvic ultrasound during the ED stay to confirm an IUP. Given that our primary diagnostic modality in these patients is ultrasound to confirm an IUP, the results of these studies are of little value ([external validity](#)). The third observational study ([Seymour 2010](#)) only enrolled pregnant patients of 16 weeks gestational age or less with a confirmed IUP on ultrasound. They found that the pelvic examination did not affect patient disposition, but did not look at the effect on management outside of this (e.g. need for manual vacuum aspiration, dilatation and curettage) or the timing of follow-up.

The fourth article reviewed ([Linden 2017](#)) was a prospective randomized controlled trial conducted at two academic ED's in Boston and Washington, D.C. Pregnant patients < 16 weeks gestational age with vaginal bleeding or abdominal pain and with a documented IUP were randomized to either undergo a pelvic examination omitted or to have one performed. The incidence of the primary outcome (a 30-day composite that included need for further treatment or intervention, unscheduled return visits to the ED or clinic, need for hospital admission, emergency procedure transfusion, infection, or subsequent identification of other source of symptoms) occurred with similar frequency in the no pelvic exam group (19.6%) and the pelvic exam group (22.0%) for an absolute risk reduction (ARR) of -2.4% (95% CI -11.8% to 7.1%). Unfortunately, this study was limited by its small size as well as its chosen outcomes. While it assessed many sources of comorbidity, it did not address the potential need for an urgent procedure among those patients with limited follow-up, the potential for missed infectious diagnoses, or the long-term effects of delayed treatment and/or diagnosis. While this subject remains controversial, there is insufficient evidence to recommend omitting the pelvic examination in this population of patients.