

Manual Compared With Electric Vacuum Aspiration for Abortion at Less Than 6 Weeks of Gestation: A Randomized Controlled Trial

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OBJECTIVE: To evaluate whether manual or electric vacuum aspiration results in greater immediate confirmation of completed abortion at less than 6 weeks of gestation.

METHODS: Five hundred pregnant women presenting for surgical abortion with mean gestational sac diameter of less than 12 mm or no visible sac on ultrasonography were randomized to manual or electric vacuum aspiration. Tissue examination was performed by operating physicians, not blinded to group assignment, and by trained medical assistants, blinded to group assignment. Patients with no products of conception on gross inspection underwent repeat aspiration as necessary and serial human chorionic gonadotropin monitoring. All patients were scheduled for follow-up visits. The primary outcome was detection of products of conception in patients with subsequently confirmed completed abortion.

RESULTS: From April 2010 to October 2011, 252 patients were randomized to manual vacuum aspiration and 248 to electric vacuum aspiration. One hundred eighty-two (82%) patients in the manual vacuum aspiration group had products of conception identified and subsequently confirmed completed abortion compared with 164 (76%) patients undergoing electric vacuum aspiration ($P=.13$, relative risk 0.83, 95% confidence interval [CI] 0.64–1.07). In pregnancies of sac size 3 mm or less, including no visible sac, five of 29 (17%) patients undergoing manual vacuum aspiration had accurate identification of products of conception compared with four of 31 (13%) patients undergoing electric vacuum aspiration ($P=.64$, relative risk 0.85, 95% CI 0.44–1.63). Tissue reports of physicians and medical assistants had 90% concordance. Seventy-nine (16%) patients required human chorionic gonadotropin monitoring to confirm completed abortion. There were seven (1.4%) ongoing pregnancies, including four false-positive products of conception results and, among the latter, one presumed ectopic pregnancy.

CONCLUSION: Our study supports providing abortions to women who request them before 6 weeks of gestation using either manual or electric vacuum aspiration. Early aspiration is highly effective, although human chorionic gonadotropin monitoring may be necessary to confirm complete abortion.