

Mammotome Vacuum-Assisted Breast Biopsy versus Conventional Open Surgery: A Meta-Analysis

Authors : Dylan Shiting Lu, Samson Okello, Anita Chunyan Wei, Daniel Xiao Li

Abstract : Mammotome vacuum-assisted breast biopsy (MVB) introduced in 1995 can be used for the removal of benign breast lesions. Whether or not MVB is a better option compared to conventional open surgery is inconclusive. We aim to compare the clinical and patient-related outcomes between MVB and open surgery to remove benign breast tumors less than 5 cm in women. We searched English and Chinese electronic databases with the keywords of Mammotome, clinical trial (CT), vacuum-assisted breast biopsy for studies comparing MVB and open surgery until May 2021. We performed a systematic review and random-effects meta-analysis to compare incision size, operation time, intraoperative blood loss, healing time, scar length, patient satisfaction, postoperative hematoma rate, wound infection rate, postoperative ecchymosis, and postoperative sunken skin among those who have Mammotome and those who have surgery. Our analysis included nine randomized CTs with 1155 total patients (575 Mammotome, 580 surgery) and mean age 40.32 years (standard deviation 3.69). We found statistically significant favorable outcomes for Mammotome including blood loss (ml) [standardized mean difference SMD -5.03, 95%CI (-7.30, -2.76)], incision size (cm) [SMD -12.22, 95%CI (-17.40, -7.04)], operation time (min) [SMD -6.66, 95%CI (-9.01, -4.31)], scar length (cm) [SMD -7.06, 95%CI (-10.76, -3.36)], healing time (days) [SMD -6.57, 95%CI (-10.18, -2.95)], and patient satisfaction [relative risk RR 0.38, 95%CI (0.13, 1.08)]. In conclusion, Mammotome vacuum-assisted breast biopsy compared to open surgery shows better clinical and patient-related outcomes. Further studies should be done on whether or not MVB is a better option for benign breast tumors excision.

Keywords : clinical and patient outcomes, open surgery, Mammotome vacuum-assisted breast biopsy, meta-analysis

Conference Title : ICSO 2021 : International Conference on Surgical Oncology

Conference Location : Baku, Azerbaijan

Conference Dates : October 04-05, 2021