Peer Review File

Article information: http://dx.doi.org/10.21037/gs-20-344.

Reviewer #A

1. The authors have defined a hematoma as being a post-VAB collection of blood/serum greater than or equal to 1cm in diameter as identified on ultrasound. This does seem to be a somewhat arbitrary definition of a haematoma, as perhaps a more clinical definition might include other associated features such as pain and swelling. Indeed in view of the fact that the median size of the lesions excised in this series was 18.7mm (range 9-35.1mm), I am surprised that only 11.4% of the lesion excised resulted in a hematoma by the above definition (>1cm). For example, if you are excising a 2cm lesion you would expect there to be a residual cavity of at least 2cm. I also note that a 7g gauge VAB needle was used with the mean number of samples extracted being 10, with the range being 5-18. Removing such a large volume of tissue would be expected to leave a significant cavity which would be filled by blood, so that in essence the underlying hypothesis of the paper in many ways is self-fulfilling, because it would seem self-evident that the larger the size of the lesion being removed, the bigger would be the resulting cavity which would be filled by blood. Is this therefore by definition a hematoma? Would a more appropriate definition be a collection greater than the size of the lesion? Was there any correlation in the study with patients symptoms and signs such as pain, bruising and swelling?

Response: We thank the Reviewer for the comment and we agree. The text was changed accordingly.

Changes in text: US was also performed to detect hematoma, which was defined as a hypoechoic area with an average diameter of ≥1 cm at the mastectomy site by ultrasound 24 h after breast VAB and accompanied by local pain, bruising, and swelling.

2. In the Abstract page 2 line 16, the sentence reads.. "Finally 385 (97.4%) hematomas were absorbed completely within 6 months". I assume this is a typographical error and should be 38.5

Response: We thank the Reviewer. This was indeed a typo. It should be 38.

Changes in text: Finally, 38 (97.4%) hematomas were absorbed completely within 6 months.

3. The authors need to clarify how the actual procedure of the vacuum-assisted excision was performed. It is stated on page 5 that all of the ultrasound examinations were performed by one Radiologist, yet there seems to have been several Surgeons involved. Did the Radiologist hold the probe on the breast whilst the Surgeon inserted the needle? In most instances of Surgeon-performed vacuum-assisted biopsies or excisions it would be the Surgeon who would also hold the ultrasound probe to better coordinate the whole procedure.

Response: We thank the Reviewer for the comment. In most instances of vacuum-assisted biopsies or excisions, the operations were performed by one experienced surgeon who would hold the ultrasound probe to better coordinate the whole procedure.

Changes in text: The following statement was added to the Methods: "In most instances of vacuum-assisted biopsies or excisions, the operations were performed by one experienced surgeon who would hold the ultrasound probe to better coordinate the whole procedure."

4. The inclusion criteria also need clarification. It is stated that all of the lesions included in the study had been previously demonstrated to be BI-RADS 3, 4a or 4b and to have had a core needle biopsy prior to the VAE being performed. It is stated on page 8 that a total of 293 patients (343 breast lesions) were included in the study and went on to have followup for 6 months. However, for patients classified as BI-RADS 3, 4a and 4b or even for those having had a previous benign standard core biopsy, most studies would suggest that on subsequent VAB/VAE interventions the pathology findings would be upgraded to either atypical or malignant lesions in the order of 15% of cases, thus necessitating further surgery. Did none of these 293 patients have any such subsequent pathology on VAE, or was there a larger cohort of patents which included such outcomes and with those patients having been excluded from this study?

Response: The Reviewer is right. There was a larger cohort of patients that included such outcomes and with those patients (malignant lesions) having been excluded from this study. Among 357 consecutive patients who underwent VAB, 64 were excluded because of malignant lesions; therefore, 293 patients were included in the final analysis (see Page 9, line 16).

Changes in text: This statement was added: "Among 357 consecutive patients who underwent VAB, 64 were excluded because of malignant lesions; therefore, 293 patients (343 breast lesions) were included in the final analysis."

5. On page 8 line 20, the sentence reads ..“Histological evaluation showed that the worst lesion in the 293 patients was fibroadenoma and 43.0%.....”. What to the authors mean by the worst lesion?

Response: We thank the Reviewer. We meant as the most advanced lesion present in a given patient.

Changes in text: "Worst" was deleted.

6. The study is reported as demonstrating that one of the factors significant for the development of post-operative hematoma formation was the duration of time of the compressive bandage following the procedure. However there is some confusion around the actual duration of the compressive bandage as per the stated protocol. On page 7 line 5, it is stated that a routine pressure dressing was placed for 24-48hrs with an elastic bandage, however in table 2 univariant and multivariant analyses are conducted comparing 23 patients with <48hrs and 270 patients with >48hrs duration of compression. What was the range and average duration of the compression?

Response: We thank the Reviewer for the comment. In fact, kept the bandage for 12-24 h (mean of 18 h) or 48-72 h (mean of 54), according to the surgeon's recommendations.

Changes in text: A routine pressure dressing was placed for 12-24 h or 48-72 h with an elastic bandage, according to the surgeon's recommendations.

7. In the discussion on page 12 line 13 it is stated… "It is speculated that the aspiration range will have a significant effect on the occurrence of hematoma." I presume by the term "aspiration range" the authors mean the size of the lesion and the number of samples removed, which relates to my point 1 above, with this being a self-evident expectation.

Response: We thank the Reviewer for the comment. The statement was revised as below.

Changes in text: The statement was revised: "It is speculated that the rotary cutting range (i.e., the size of the lesion) will have significant effect on the occurrence of hematoma."