Patient Experience with Cytopathologist-Performed Fine-Needle Aspiration  
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BACKGROUND  
Cytopathologist-performed fine-needle aspiration (FNA) offer the advantages of being directly involved in the pre-analytical process including more frequent sample adequacy, correct specimen triage for ancillary testing, and optimal turnaround time. The number of cytopathologist-performed FNAs, particularly ultrasound-guided, has been increasing in recent years. However, there is lack of data reported on patient experience in this setting, and we aim to evaluate the patient experience in terms of potential complications and feedback to improve the care provided at our institution's fine-needle aspiration performed by cytopathology fellows.

DESIGN  
All FNAs included in the study were performed by cytopathology fellows under faculty supervision at Massachusetts General Hospital from 2013-2017. Patients were collected as part of routine 2-3 day post-procedure phone follow up. Patient responses including complications (bleeding, bruising, swelling, pain, infection, etc.), measures taken to treat complications, as well as general comments and feedback were collected at the time of the follow up. Patient demographics, clinical history, procedural data were also documented from patient medical records and cytopathology reports.

RESULTS  
Of the 303 patients who underwent FNA performed by a cytopathology fellow, 126 patients (41.6%; 46 males, 80 females; mean age 56 yrs, range 19-91) were successfully contacted and available for phone follow up. Anatomic biopsy sites for these patients were: head (N=34) and neck (N=29), axilla (N=11), breast (N=31), torso (N=5), extremities (N=6), inguinal region (N=2), and fat pad (N=8). Ultrasound was used to visualize the lesions in 96 cases (76%). The needle sizes used were 23-gauge (N=21), 25-gauge (N=80), and both (N=25). The average number of passes performed was 3 (range 1-6). The average number of slides prepared for rapid on-site evaluation was 3 (range 1-11). 46 patients (36.5%) reported these complications at the biopsy site: 38 with pain or soreness, 5 with swelling, and 11 with bruising. For these complications, 15 patients utilized over the counter pain medication or warm/cold compresses. 12 patients were anticoagulated, but none experienced bruising or prolonged bleeding from the procedure. No complications requiring additional medical treatment were reported. All patients had an overall positive experience, with some specifically citing thorough explanation of the procedure, cytopathologist ability to address patient questions and concerns, and professionalism. For those unavailable for phone follow up, review of the patients' medical records showed 158 patients had at least 1 subsequent clinical visit and 1 patient (0.6%) was documented to have bruising at the FNA site.

CONCLUSIONS  
Patients who underwent fine-needle aspiration at our clinic reported an overall high satisfaction with their experience, which may be attributed to the standardized training of our cytopathology fellows in procedural explanation and aspiration techniques.