Increasing Ultrasound-Guided Thyroid Biopsy Yield

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Increasing Ultrasound-Guided Thyroid Biopsy Yield

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Background

➢ Thyroid nodules are a very common ultrasound finding
   Prevalence of up to 68%
   5-15% of these are malignant and many require biopsy by fine needle aspiration (FNA)

➢ Rate of inadequate biopsy varies widely despite ultrasound guidance (59.3%-99.6%)

➢ Two modifiable factors are consistently identified which improve thyroid biopsy yield
   Operator experience
   Cytopathology involvement

➢ Obtaining adequate biopsies can impact patient care
   ➢ Eliminate need for additional invasive procedures
   ➢ Eliminate need for follow up imaging
   ➢ Decrease anxiety associated with an indeterminate biopsy result

Objections

➢ Conduct Plan-Do-Study-Act (PDSA) performance improvement project to improve thyroid biopsy yield
➢ Short-term ➢ reduce unsuccessful biopsies by 50%
➢ Long-term ➢ eliminate unsuccessful biopsies

Methods and Materials

➢ Unsuccessful biopsies reviewed for underlying causal factors
   ➢ 2 major factors ➢ 1) lack of cytology availability and 2) operator variability
   ➢ Schedule adjusted to accommodate all patients into thyroid clinic conducted by single subspecialist
   ➢ Coordination with TJUH pathology department to provide tele-cytopathology services for review of all ultrasound guided thyroid biopsies.
   ➢ Resident team member collects and analyzes inadequate thyroid biopsies for future improvement events (PDSA)

Results

➢ In the first two quarters of FY 2016 there were 1 and 0 inadequate biopsies, respectively (100%, 97.6%)”
➢ Fallout ➢ unexpected lack of tele-cytopathology

Significance/Lessons Learned

➢ In the first two quarters since quality improvement measures have been implemented there has been improvement in the the rate of successful biopsies
➢ Leveraging provider experience can provide improved care patient care
➢ Standardizing the approach improves team performance
   ➢ Support staff better understand their role with less variability on the part of the proceduralist
   ➢ Inter-disciplinary collaboration and technology leveraging allow involvement of cytopathology increases adequate biopsy yield

Future Direction

➢ Continue to analyze adequate biopsy rates to verify improvement (PDSA)
➢ Periodically review fallouts to identify common cause to implement future improvements (PDSA)