AFIRMA PERFORMANCE IN ENDOCRINE SURGICAL PRACTICE

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Background/Purpose: The Afirma GEC's performance in patients with "indeterminate" thyroid nodules has been validated in three trials. We report our surgical outcomes in an endocrine surgical practice using the GEC over 27 months.

Methods: RMH obtained cytologic specimens from thyroid nodules using sonographic needle guidance and standard FNA procedure from 1/2012-4/2013. 3-4 needle passes were performed on each nodule with generation of ethanol fixed smears and subsequent needle washout into preservative for GEC testing. After cytological assessment, GEC testing was ordered for any nodule that was "indeterminate." Surgery was suggested for every GEC "suspicious" nodule.

Results: 632 thyroid nodules in 523 adult patients were biopsied. 75% (475) were cytologically benign, 13% (83) non-diagnostic, 10% (61) indeterminate and 2% (12) malignant.

Of the 61 "indeterminate" specimens, 59% (36) were GEC "suspicious," 34% (21) were GEC "benign" and 7% (4) were GEC "inadequate."

Of the 36 patients with "suspicious" GEC's, 29 have undergone surgery and 62% (18) carry final diagnoses of thyroid cancer. Of those (11) with benign pathology, 73% (8) had prominent Hurthle cell populations.

Of the 21 patients with "benign" GEC's, 5 have undergone surgery and two cancers were discovered: a cystic papillary cancer and a 0.64 cm tall cell variant.

4 out of 4 medullary cancers were identified by GEC.

Discussion & Conclusion: GEC has allowed us to prevent 16 thyroid surgeries in Afirma "negative" patients at a savings of $216,000 ($13,500/thyroidectomy). The cost of GEC was $183,000. Cost savings were $33,000.

Afirma GEC correctly detected 100% of our medullary cancers.

GEC struggles in the diagnosis of Hurthle cell dominant pathologic processes.