

Abstract

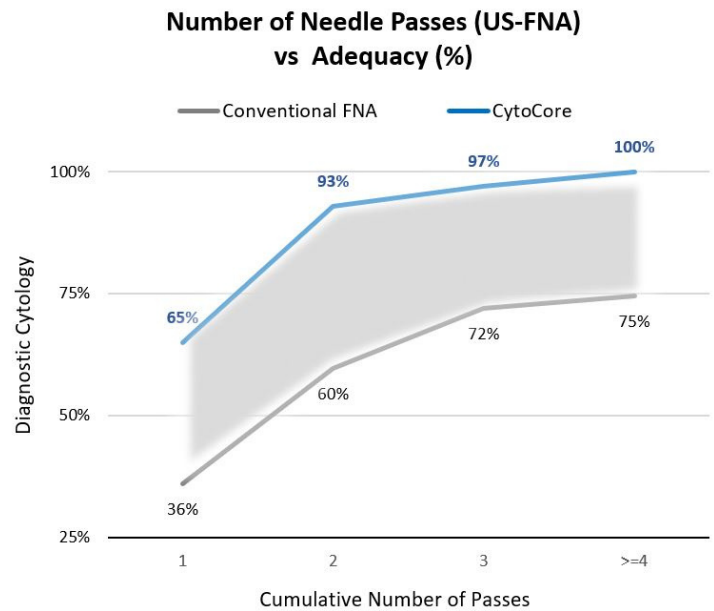
Motorized Rotating Fine Needle Biopsy Device Reduces Number of Passes Needed for Cytological Adequacy and Improves Diagnostic Accuracy

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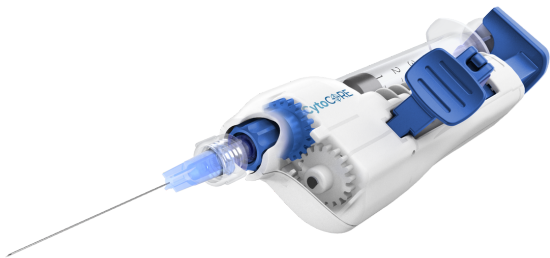
Purpose: High rates of inadequate and indeterminant samples are typical for fine needle aspiration biopsies of the thyroid. These results lead to repeat FNA procedures, futile diagnostic thyroidectomies (full or partial), and the associated additional costs. This study aimed to determine the impact of using CytoCore®, a motorized rotating fine needle biopsy device, on the relative number of passes required to obtain an adequate sample and a diagnostic biopsy in comparison to global averages using traditional FNA.

Materials and Methods: Thyroid US-FNAs performed consecutively with the CytoCore® biopsy device between August 2020 and March 2021 were retrospectively reviewed. Data was extracted from ultrasound and pathology reports that included (i) number of passes required to obtain an adequate sample and (ii) specimen diagnosis.

Results: Using the CytoCore®, adequate samples were obtained with only 1 pass in 65% of nodules and 2 passes or less in 93% of nodules, compared to global averages using conventional FNA of 36% and 60%, respectively (all comparisons $p < 0.001$). Nondiagnostic rates of 3% and indeterminate rates of 4% with the CytoCore® compared favorably to global averages using conventional FNA of 9% ($p = 0.04$) and 10% ($p = 0.045$), respectively.



Conclusion: This study demonstrates that using CytoCore® improves clinical efficiency by reducing the number of passes required to obtain an adequate sample and reducing the rate of nondiagnostic diagnoses.



Picture of CytoCore device provided by Praxis Medical™