Review

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The Bethesda System for Reporting Thyroid Cytopathology: A Meta-Analysis

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Key Words

Bethesda · Thyroid fine-needle aspiration · Meta-analysis

Abstract

Objective: We aimed to investigate the validity of the Bethesda System for Reporting Thyroid Cytopathology (TBSRTC) through meta-analysis. ***Study Design:*** All publications between January 1, 2008 and September 1, 2011 that studied TBSRTC and had available histological follow-up data were retrieved. To calculate the sensitivity, specificity and diagnostic accuracy, the cases diagnosed as follicular neoplasm, suspicious for malignancy and malignant which were histopathologically confirmed as malignant were defined as true-positive. True-negative included benign cases confirmed as benign on histopathology. The nondiagnostic category was excluded from the statistical calculation. The correlations between the 6 diagnostic categories were investigated. ***Results:*** The publications review resulted in a case cohort of 25,445 thyroid fine-needle aspirations, 6,362 (25%) of which underwent surgical excision; this group constituted the basis of the study. The sensitivity, specificity and diagnostic accuracy were 97, 50.7 and 68.8%, respectively. The positive predictive value and negative predictive value were 55.9 and 96.3%, respectively. The rates of false negatives and false positives were low: 3 and 0.5%, respectively. ***Conclusions:*** The results of meta-analysis showed high overall accuracy, indicating that TBSRTC represents a reliable and valid reporting system for thyroid cytology.

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