

# Bethesda Classification and Cytohistological Correlation of Thyroid Nodules in a Brazilian Thyroid Disease Center

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## Abstract

**Background:** The Bethesda System has been used to classify thyroid cytology in 6 categories besides presenting malignancy rates and respective approaches. Reference centers have validated its use by comparing its proposed malignancy rates with those in their populations. However, to the best of our knowledge, there has been no corresponding study in Brazil. **Objectives:** To evaluate the performance of the Bethesda classification in a Brazilian thyroid reference center and correlate the results with cytohistological reports in patients referred to surgery. **Methods:** Data records from 980 fine-needle aspiration (FNA) results were retrospectively analyzed, and, in patients who underwent surgery, the results were correlated with the cytohistological findings. **Results:** 980 FNAs and 585 patients were evaluated. The incidence of each cytological category was: 11% nondiagnostic (ND), 59.6% benign, 7.1% (atypia of undetermined significance or follicular lesion of undetermined significance (AUS/FLUS), 8.5% follicular neoplasm or suspicious for follicular neoplasm (FN/SFN), 5.1% suspicious for malignancy (SM), and 8.3% malignant. The surgery rate was 41.8% (245/585). The malignancy rate in each category was: 6% benign, 12% AUS/FLUS, 20.8% FN/SFN, 72.5% SM, and 97.3% malignant. For ND nodules, the malignancy rate was 25.7% (66.6% multifocal and papillary microcarcinomas), a higher rate than in the literature. In this category, surgery was performed in multinodular goiters presenting with another nodule > 3.0 cm and/or with an FN/SFN, SM, or malignant cytological result. **Conclusion:** The Bethesda System can be applied to the Brazilian population, since the frequency and malignancy rates of each category were similar to those described by its classification. It is noteworthy that a higher risk of malignancy was observed in the ND cytological category.

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