Aim: Aspiration cytology has been less often used as an initial investigative tool for patient presenting with thymic epithelial neoplasms mainly due to the rarity of thymic tumors and limited literature of their cytomorphologic features. This study evaluates our experience with Fine Needle Aspiration Cytology of these neoplasms and the correlation between cytoologic and histologic diagnoses.

Methods: This is a retrospective study of 21 diagnosed cases of surgically resected thymic epithelial neoplasms with corresponding pre-operative, image-guided fine needle aspiration cytology (FNAC) done at the Philippine Heart Center between July 2009 and September 2014. The results of the pre-operative cytology were interpreted as features favor thymoma, neuroendocrine tumor, thymic carcinoma and non-diagnostic (descriptive) aspirate. Immunohistochemical studies were applied in 8 cases.

Results: There were 2 (10%) cases of thymic carcinoma, 3 (14%) thymic carcinoids and 16 (76%) thymomas of varying types. 2 of 3 thymic carcinomas were diagnosed correctly by cytology with 1 false positive diagnoses turning out as thymoma. All 3 cases of thymic carcinoid were all correctly diagnosed pre-operatively. 13 of 16 thymoma cases were also diagnosed pre-operatively with 2 cases yielded non-diagnostic (descriptive) interpretations only. In this series, the accuracy of our diagnoses is 81.2% (13/16) for thymoma, 100% (3/3) for thymic carcinoids and 67% (2/3) for thymic carcinoma. Over-all, we were able to obtain 85.7% correct pre-operative cytologic diagnoses.

Conclusions: Fine needle aspiration cytology of thymic epithelial neoplasm yields a reliable cytoologic-histologic correlation and we implore clinicians to embrace this procedure in the pre-operative management of patients especially in resource-limited setting.

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