ABSTRACT

**Background:** Differential diagnosis of thyroid nodules can be problematic for pathologists and clinicians in routine examination, ancillary diagnostic marker along with an histological examination of the nodules thyroid may be useful.

**Objective:** Analyze the differentiated of MMP-9 expression in hyperplastic nodule, follicular adenoma and follicular carcinoma thyroid.

**Methods:** An analytic observational design with cross sectional approach. Study sample was patients hyperplastic nodule, follicular adenoma and follicular carcinoma that histopathologic diagnosis at the Laboratory of Anatomic Pathology Dr.Soetomo Hospital during 2009–2011. Immunohistochemical examination using polyclonal antibody MMP-9. Expression of MMP-9 assessed based on percntation tumor cells and intensity that showed imunoreaktifitas semiquantitatively. Differtiated were analyzed with Kruskal Wallis and Mann - Whitney test, with significance on p < 0.05.

**Results:** From 30 cases of thyroid nodule lesion, 8 cases of follicular carcinoma showed score +3 an MMP-9 expression, most cases (13/30) of hyperplastic nodule showed score +2 and score +1 an follicular adenoma (9/30). There were MMP-9 expression differentiation on follicular adenoma and follicular carcinoma (p=0,000) but there were no differntiation between hyerplastic nodule with follicular adenoma (p=0,648).

**Conclusion:** There were MMP-9 expression differentiation on follicular adenoma and follicular carcinoma (p=0,000) but there were no differntiation between hyerplastic nodule with follicular adenoma (p=0,648).

**KEY WORDS:** MMP-9, hyperplastic nodule, follicular adenoma and follicular carcinoma.