

**HUBUNGAN ANTARA PENCITRAAN *MAGNETIC RESONANCE IMAGING* DENGAN *GRADING* HISTOPATOLOGI DAN EKSPRESI *VASCULAR ENDOTHELIAL GROWTH FACTOR* PADA PASIEN *ASTROCYTOMA***

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**ABSTRAK**

**Latar belakang:** *Astrocytoma* adalah tumor neuroepitelial yang bersifat infiltratif luas di parenkim otak, memiliki kemampuan invasi yang kuat, tingkat mortalitas dan kekambuhan yang tinggi, serta prognosis yang buruk. *World Health Organization* mengklasifikasi *Astrocytoma* atas empat *grade* berdasarkan histopatologi. *Grading Astrocytoma* diperlukan untuk menentukan tatalaksana prognosis pasien. Tujuan penelitian ini adalah untuk mengetahui hubungan antara gambaran *MRI* dengan *grading* histopatologi *Astrocytoma* dan ekspresi *VEGF*.

**Metode:** Penelitian *cross sectional* pada 31 pasien *Astrocytoma* di RSUD Prof.dr Margono Soekarjo selama bulan Januari 2018-Desember 2022 sesuai kriteria inklusi dan eksklusi. Hubungan antara gambaran *MRI* dengan *grading* Histopatologi *Astrocytoma*, dan ekspresi *VEGF* dianalisis dengan uji *Chi-square* ( $\chi^2$ ), dilanjutkan uji korelasi *Spearman* dengan Interval Kepercayaan > 95%.

**Hasil:** Didapatkan nilai  $p > 0,05$  pada hubungan antara gambaran *MRI* dengan *grading* histopatologi serta antara *grading* histopatologi dengan ekspresi *VEGF*. Didapatkan nilai  $p < 0,05$  antara nilai *enhance* pada gambaran *MRI* dengan ekspresi *VEGF* dengan nilai  $\pi = 0,403$ .

**Kesimpulan:** Terdapat hubungan bermakna antara gambaran *enhance* *MRI* dengan ekspresi *VEGF Astrocytoma* dengan kekuatan hubungan yang cukup kuat. Pada penelitian ini, gambaran *MRI* dengan *grading* histopatologi dan antara *grading* histopatologi dengan ekspresi *VEGF Astrocytoma*, tidak terdapat hubungan yang bermakna.

**Kata kunci:** *Astrocytoma*, *Grading* Histopatologi, Gambaran *MRI*, Ekspresi *VEGF*

**CORRELATION BETWEEN MAGNETIC RESONANCE IMAGING AND HISTOPATHOLOGICAL GRADING AND EXPRESSION OF VASCULAR ENDOTHELIAL GROWTH FACTORS IN ASTROCYTOMA**

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*ABSTRACT*

**Background:** Astrocytoma is a neuroepithelial tumor that is widely infiltrative in the brain parenchyma, has strong invasive ability, high mortality and recurrence rates, with poor prognosis. The World Health Organization classifies Astrocytoma into four grades based on histopathology. Astrocytoma grading is needed to determine the patient's prognosis. The aim of this study was to determine the relationship between MRI images and Astrocytoma histopathological grading and VEGF expression.

**Method:** Cross sectional study on 31 Astrocytoma patients at Prof. Dr. Margono Soekarjo Regional Hospital during January 2018-December 2022 according to inclusion and exclusion criteria. The relationship between the MRI image and histopathological grading of Astrocytoma, and VEGF expression was analyzed using the Chi-square test ( $\chi^2$ ), followed by the Spearman correlation test with a Confidence Interval > 95%.

**Results:**  $p$  value > 0.05 was obtained for the relationship between MRI images and histopathological grading as well as between histopathological grading and VEGF expression. A  $p$  value < 0.05 was obtained between the enhancement value on the MRI image and the expression of VEGF with a value of  $\pi = 0.403$ .

**Conclusion:** There is a significant relationship between the enhanced MRI image and the VEGF expression of Astrocytoma with a fairly strong relationship. In this study, there was no significant relationship between MRI images and histopathological grading and between histopathological grading and Astrocytoma VEGF expression.

**Keywords:** Astrocytoma, Histopathological Grading, MRI Image, VEGF Expression