Peran imunohistokimia p53 dalam membedakan astrositoma difus dengan astrositosis : studi diagnostik = Role of p53 immunohistochemistry in differentiating low grade diffuse astrocytoma from astrocytosis : diagnostic study

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Abstrak

Latar Belakang: Astrositoma difus (WHO grade II) merupakan tumor astrositik yang paling sering ditemukan di FKUI/ RSCM. Tumor ini merupakan tumor invasif, potensial agresif, dan dapat bertransformasi menjadi astrositoma derajat tinggi. Gambaran histopatologik astrositosis dapat menyerupai astrositoma difus dan sukar dibedakan hanya dengan gambaran histopatologik, apalagi bila ukuran spesimen biopsi sangat kecil. Beberapa penelitian menunjukkan bahwa mutasi gen TP53 sering ditemukan pada astrositoma difus. Penelitian ini dilakukan untuk melihat apakah pulasan imunohistokimia p53 dapat digunakan untuk membedakan astrositoma difus (WHO grade II) dengan astrositosis.

Bahan dan Metode: Studi diagnostik dilakukan pada 20 kasus astrositoma difus dan 20 kasus lesi astrositosis menggunakan antibodi monoklonal p53 klon D0-7, NovocastraTM dengan baku emas pemeriksaan histopatologik. Penilaian histopatologik dan ekspresi p53 dinilai secara tersamar. Pulasan imunohistokimia dinyatakan dalam skor, yaitu positif bila inti astrosit terwarnai coklat tua. Hasil penilaian ekspresi pulasan p53 dimasukkan ke dalam tabel 2x2 untuk dihitung nilai diagnostiknya.

Hasil: Protein p53 terekspresi kuat pada 13 kasus astrositoma difus dan 1 kasus astrositosis karena peradangan. Sensitivitas dan spesifisitas yang didapat adalah 65% dan 95%. Ekspresi lemah dan sedang tidak terbatas pada astrositoma difus, namun dijumpai pula pada kasus astrositosis.

Kesimpulan: Pada penelitian ini di dapatkan spesifisitas yang tinggi, namun sensitivitas rendah. Ekspresi p53 tidak terbatas pada astrosit neoplastik, tapi juga dijumpai pada astrosit reaktif dan sel selain astrosit. Oleh karena itu diperlukan kehati-hatian dalam interpretasi ekspresi p53.
<hr><i>Background: Diffuse astrocytoma (WHO grade II) is the most common astrocytic tumor in FMUI/ CMH. This tumor is an invasive, potentially aggresive, and can be transformed into high grade astrocytoma. In daily practice, diagnosis of diffuse astrocytoma can be difficult to established with morphology alone. This is because of similar clinical, radiological, and morphology with its mimics, especially astrocytosis. This situation become more complicated with small biopsies. Previous studies showed that diffuse astrocytoma often harbor TP53 gene mutation. The aim of this study is to assess the usefulness of p53 immunohistochemistry to distinguish diffuse astrocytoma (WHO grade II) from astrocytosis.

Material and Methods: In this study we assessed the immunoreactivity of 20 diffuse astrocytomas cases and 20 astrocytosis lesions with p53 monoclonal antibody clone DO-7, NovocastraTM. The diagnostic test then performed with histopathology as gold standard. Histopathology and p53 staining were done independently. Only dark brown nuclear staining were scored positive. We establish 2x2 table and calculate the diagnostic

values.

Result: Thirteen diffuse astrocytomas and one lesion with astrocytosis are strongly immunorective to p53 antibody. Weak and moderate staining intensity were observed in astrocytosis. The sensitivity is 65% and specificity 95%.

Conclusion: The diagnostic values of p53 immunohistochemistry alone were limited regarding to low sensitivity (65%) despite of high specificity (95%). The assessment of p53 positivity must be carefully established since the immunoreactivity were not limited to neoplastic astrocytes but also by reactive astrocytes and other cells.</i>