Antidepressant Use Predicts Tumor Recurrence in Meningioma Patients with Long-term Follow Up

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RESULTS

Simpson grade of resection and histopathological grade (WHO) is highly correlated with the recurrence rates of meningiomas.

Meningiomas, dependent on location, may present with neuropsychiatric symptoms in early stages. The pharmacological management of psychiatric symptoms, notably depression, consists of treatment with anti-depressants, most commonly selective serotonin reuptake inhibitors (SSRI).

With increasing use of anti-depressants (AD), multiple studies have noted a small protective effect of AD for glioma patients, but their impact on meningiomas has not been established.

The study aims to evaluate the role of AD in the context of additional clinical factors in relation to long-term risk of meningioma recurrence.

METHODS

Medical records of 112 patients who presented to our medical center from 2011-2014 who had at least 3 years follow-up after primary meningioma resection were reviewed (median=4.18 years, IQR=3.43-4.88 years). Seven patients were excluded due to non-intracranial meningioma (e.g., spinal) and/or insufficient data, resulting in a final sample of 105 patients.

29 patients had a recorded history of AD use. AD name, type (e.g., SSRI or NDRI), dosage, and duration of use were collected. Period of use identified whether patients began AD use prior to meningioma resection only, after resection only, or continued use both prior to surgery and after. For those with recurrence, length of time from AD prescription until recurrence was also recorded.

Univariate and multivariate analyses of the patient characteristics were performed on postoperative clinical outcomes including tumor recurrence.

RESULTS

AD use was an independent predictor of meningioma recurrence. The association may be due to mood or affective changes caused by tumor location in CPF regions that may be a sign of early recurrence (Figure 1).

On univariate analysis, AD use was significantly associated with meningioma recurrence in addition to male gender, preoperative radiation treatment, subtotal grade of tumor resection, and WHO II or III tumor grade (p<0.05, see Table 2).

Patients with a WHO grade II/III tumor were over 17 times more likely to have a recurrence compared to those with WHO grade I histopathology (p<0.001, see Table 2).

Conclusions

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The finding calls attention to AD use in the management of meningioma patients, and warrants further exploration of an underlying relationship.