SOMATOSTATIN RECEPTOR-TARGETED RADIOPEPTIDE THERAPY IN PATIENTS WITH PROGRESSIVE UNRESECTABLE MENINGIOMA.

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TO THE EDITOR: Marineck et al. (1) recently presented a study aimed at evaluating the long-term outcome after treatment with $^{90}$Y-DOTATOC and $^{177}$Lu-DOTATOC in patients affected by unresectable progressive meningioma. In their experience, 34 patients from Europe and North America were treated with $^{90}$Y-DOTATOC and $^{177}$Lu-DOTATOC until tumor progression or permanent toxicity occurred. The Authors concluded that $^{90}$Y-DOTATOC and $^{177}$Lu-DOTATOC are promising tools for the treatment of progressive unresectable meningioma, especially in patients with high radiopharmaceutical accumulation in the tumor.

Recently, we have reported on peptide receptor radionuclide therapy in 8 patients who had been referred to the section of Nuclear Medicine of our University Hospital with a diagnosis of meningioma (6 patients) or meningiomatosis (2 patients) (2). At $^{111}$In-Pentetreotide scintigraphy, all patients showed grade 2 to 3 tumoral uptake; moreover, median tumor/nontumor ratio evaluated by a standard ROI method on the 24-hour scan was 5.7, ranging 2.9 to 9.1. All patients had been treated with $^{111}$In-Pentetreotide at high therapeutic activities (two to four cycles, median activity per cycle 7 GBq, cumulative activity range: 4.8–29 GBq); one patient had been previously treated with six cycles of $^{90}$Y-DOTATOC (cumulative activity: 13.3 GBq; the patient had shown a mild impairment of renal function); in 2 patients, a cocktail of $^{111}$In-Pentetreotide and beta-emitting radiolabeled peptides ($^{90}$Y-DOTATOC and $^{177}$Lu-DOTATATE) had been administered. Disease response was evaluated according to the Southwest Oncology Group (SWOG) criteria: partial response was observed in 2 patients, stable disease in 5 cases and progression of disease in 1 patient. No acute toxicity or neurological or renal function impairment occurred. Mild and transient hematological toxicity was found in 4 patients. No significant correlations between objective response and patients' age, tumor WHO grade, baseline Karnofsky performance score, disease state at baseline, and cumulative dose were noted.

The results of our study (2) are similar to and support the results of Marineck et al. (1) for peptide receptor radionuclide therapy in patients with progressive unresectable meningiomas, even
after multimodal treatment, especially in cases with limited treatment options or recurrent lesions. Moreover, in our experience (2) we found that treatment with $^{111}$In-Pentetreotide is well tolerated and effective in patients with meningiomas/meningiomatosis. By this way, in our study (2) we have concluded that considering the lack of significant toxicity, peptide receptor radionuclide therapy of meningiomas using $^{111}$In-Pentetreotide could be proposed even nowadays when the use of $^{177}$Lu- or $^{90}$Y-DOTA-peptides seems unsafe, namely in patients with renal impairment/toxicity. Finally, I further suggest the use of $^{111}$In-Pentetreotide or $^{177}$Lu-DOTA-peptides (characterized by a shorter penetration range with respect to $^{90}$Y-DOTA-peptides) in the event of patients affected by progressive unresectable meningiomas involving critical structures (vascular and neural ones) to avoid eventual complications from radiation-induced edema.

REFERENCES.


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