

The experience at complex treatment of central nervous system prime malignant tumors with temodale

Guliko Papuashvili

A.Gvamichava Oncology National Center, Tbilisi, Georgia

ABSTRACT

Nowadays, the treatment of central nervous system prime malignant tumors is not satisfactory. Treatment with nitrosomethylurea and vincaalcaloid preparations is less effective. In last years interest of clinicians to medicament of new generation – temodale is increasing. Temodale is mainly used for treatment of malignant gliomas, multiform glioblastoma, anaplastic astrocytomas and brain metastasis as well. In oncology national center from May, 2002 year a total of 50 patients suffering from central nervous system prime malignant tumors underwent treatment with temodale. According to the histomorphology, brain medulloblastoma was detected in 13 of cases, glioblastoma – in 16 and astrocytoma – in 21 of cases. On the background of treatment with temodale initially the sharply expressed subjective effect was revealed, after 2-3 course – objective effects that has been confirmed by computed tomography. Among central nervous system tumors the astrocytoma is more susceptible to temodale and the treatment effect is much more effective than in tumors of other histomorphology. Chemotherapy with temodale is characterized by slightly expressed side effects (nausea, vomiting) that can be removed by cerucal or emetron.

KEYWORDS: *central nervous system, malignant tumors, temodale, temozolomide (TMZ), astrocytoma, multiform glioblastoma, medulloblastoma*

Despite wide use of combined and complex methods of treatment in clinical practice the treatment results of central nervous system prime malignant tumors are not satisfactory.

In order to improve the patients' state nitrosomethylurea and vincaalcaloid preparations are added to main scheme of treatment, however they are less effective.

The preparations of other groups are practically ineffective at tumors of such kind of localization, because they are unable to go through the blood-brain barrier.

Coming from the aforesaid, investigation and use of any new preparations that would significantly improve the treatment results is of great value and topical.

Nowadays, the new generation American preparation temodale that has been available from 1998 year is widely and successfully used in numerous of clinics in the world.

The above-mentioned preparation has been used in our center for treatment of patients with central nervous system prime malignant tumors.

MATERIAL AND METHODS

A total of 50 patients suffering from central nervous system prime malignant tumors underwent complex treatment with temodale at national oncology center from May, 2002 year.

RESULTS AND DISCUSSION

We suggest case history of 2 patients suffering from different histomorphology forms and localization of central nervous system malignant tumors.

Patient #1, V.M. 48 years old male, in 22.08.01 underwent an operation – tumorectomy, as a result of left sided fronto-temporal region tumor in Moscow Burdenko neurosurgical scientific research institute.

Histomorphologically the multiform glioblastoma was detected.

In the period from IX/01 to X/01 patient were subjected to radiotherapy with the dose of 65 Gray (total, local dose).

In IV/02 with the use of computed tomography the relapse was stated and patient was prepared for repeated operation, but in V/02 patient started treatment with temodale (daily dose - 200 mg/m²). After I-II course of treatment the marked subjective improvements were obvious (patient renewed working, drew the car).

Computed tomography confirmed the slight and insignificant reduction in size of relapsed locus.

From V/02 to V/03 patient received 10 course of treatment. During this period the patient had no complains and felt as a valuable member of society.

Computed tomography revealed complete stabilization of malignant process. From VI/03 after cessation of treatment, the malignant process started progression, size of relapsed locus markedly increased and in November 2005 year the patient underwent repeated operation.

Interval from the first operation to repeated operation was 2,5 year. Three months later after repeated operation the patient died.

The patient #2, L.G., 55 years old male. In II/03 due to spinal cord tumor underwent to operation - at C3-4 segments level – decompressive laminectomy. .

Histomorphology of biopsy material revealed astrocytoma. After operation in oncology national center patient was exposed to radiotherapy. The total dose of radiation – 40 Gray.

From IV/03 to XI/03 patient received 6 course of treatment with temodale (daily dose 200 mg/m²). During the treatment period well-expressed subjective improvements were obvious. Tumor was not visualized on computed tomography. Gliosis developed, so we received the complete and perfect effect of treatment.

Today, the patient's state is satisfactory; he is working and driving the car. The tumor process activation is not revealed (control – with computed tomography). The patient periodically receives the course of temodal therapy.

This case is interesting also, because the efficacy of chemotherapy in case of spinal cord tumors in literature is not described sufficiently.

Of remaining 48 patients, according to the histomorphology, the brain medulloblastoma was detected in 13 of cases and after 2 course of chemotherapy with temodale (daily dose - 200 mg/m²), the treatment had partial objective effect (computed tomography data) and complete subjective improvement of state.

Glioblastoma was detected in 15 of patients. They underwent three course of chemotherapy. In all cases there were partial objective and complete subjective effects.

Astrocytoma was detected in remaining 20 cases. Patients received 3 course of chemotherapy with temodale. According to the data of computed tomography there was complete objective effect.

Treatment with temodale did not accompanied with special side effects. As in case of any chemotherapy there may develop nausea, vomiting, headache, drowsiness, diarrhea or constipation, thrombocytopenia, neutropenia.

CONCLUSIONS

1. According to the obtained results could be concluded that on the temodale treatment background initially the well-expressed subjective effects are revealed and thereafter (after 2-3 course of treatment) objective effects are obvious that are confirmed by the computed tomography.

2. Among central nervous system tumors the astrocytoma is more susceptible to temodale and the treatment effect is much more effective than in tumors of other histomorphology.

3. Chemotherapy with temodale is characterized by slightly expressed side effects (nausea, vomiting, especially on the first day after administration) that can be removed by cerucal or emetron.

REFERENCES:

1. Van Rijn Johannes, Heimans Jan J., Van den Berg Jaap // Survival of human gliomacells treated with various combination of temozolomide and X-rays // J. Radiation Oncology. Phys., vol. 47, No 3, pp. 779-784, 2000.
2. Stupp Roger, Dietrich Pierre-Yves, Kraljevic Sandrine Osterman, Pica Allesia // Promising Survival for Patients with Newly Diagnosed Glioblastoma Multiform Treated with Concomitant Radiation Plus Temozolomide Followed by Adjuvant Temozolomide // J. of Clinical Oncology, vol. 20, No 5 (March 1), 2002: pp. 1375-1382.
3. Lashford I. S., Thiesse P., Jouveta A., Jaspan T. // Temozolomide in Malignant Gliomas of Childhood; A United Kingdom Children's Cancer Study Group and French Society for Pediatric Oncology Intergroup Study // J. of Clinical Oncology, vol. 20, N0 24 (December 15), 2002: pp. 4684-4691.
4. Antonov D., Paraskevadis M., Sarris G., Coliarakis N., Economou I. // Phase II Randomized Trial of Temozolomide and Concurrent Radiotherapy in Patients with Brain Metastases // J. of Clinical Oncology, vol. 20, N0 17 (September 1), 2002: pp. 3644-3650.

Опыт применения темодала для лечения злокачественных опухолей центральной нервной системы

Гулико Папуашвили

Онкологический национальный центр им. А.Гвамичава, Тбилиси, Грузия

РЕЗЮМЕ

Результаты комплексного лечения первичных злокачественных опухолей центральной нервной системы темодалом пока остаются неудовлетворительными. Эффективность дополнительного лечения препаратами нитрозометилмочевины и винкаалкалоидами довольно низкая. В последние годы клиницисты большое внимание уделяют темодалу - химиопрепарату нового поколения. Темодал, в основном, применяется в лечении злокачественных глиом, мультиформных глиобластом и анапластических астроцитом, а также при метастатическом поражении головного мозга. В Онкологическом национальном центре им. А.Гвамичава с 2002 года лечение проводилось у 50 больных с первичными злокачественными опухолями центральной нервной системы. У 13-ти больных была диагностирована медуллобластома головного мозга, у 16-ти – глиобластома и у 21-ти – астроцитомы. На фоне применения темодала наблюдается, сначала, четко выраженный субъективный эффект, а после проведения 2-3 курсов лечения - объективный эффект, что верифицируется СТ исследованием. Среди опухолей центральной нервной системы лечению темодалом лучше поддается астроцитомы, по сравнению с опухолями иного гистологического типа. Химиотерапия темодалом характеризуется слабовыраженными побочными явлениями (тошнота, рвота), которые удается купировать применением церукала или эметрона.

Ключевые слова: *центральная нервная система, злокачественные опухоли, темодал (темоzolомид), астроцитомы, мультиформная глиобластома, медуллобластома*