

# PALLIATIVE CARE OF THE PATIENT WITH THE BRAIN CANCER ASTROCYTOMA GII/GIII – A CASE STUDY

## Opieka paliatywna nad pacjentem z guzem mózgu typu astrocytoma GII/GIII - opis przypadku

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Szkoła Zawodowa w Opolu

**A-** przygotowanie projektu badania (study design), **B-** zbieranie danych (data collection), **C-** analiza statystyczna (statistical analysis),  
**D-** interpretacja danych (data interpretation), **E-** przygotowanie maszynopisu (manuscript preparation), **F-** opracowanie piśmiennictwa  
(literature search), **G-** pozyskanie funduszy (funds collection)

### Summary

**Introduction:** Malignant cancers of the central nervous system with the consequences of strong symptoms and urgent progression of the disease put the palliative teams of the palliative wards in the feeling of helplessness. Difficulties in undertaking the treatment and lack of experience with such patients cause their higher mortality rate.

**The main aim of the case:** The aim of the study is to present the clinical treatment and the palliative care of the patient with Astrocytoma GII/GIII (ICD 10 C -71).

**Data and Methods:** Analyses of the medical documentation, observation and nursing interview with the patient's family were taken into account.

**Case study:** A 39 year old woman, who had never been cured for cancer before, was transferred from the neurosurgery to the palliative care ward with brain cancer astrocytoma GII/GIII without any contact and lack of improvement of her condition. After a symptomatic treatment, a combined therapy was applied which consisted of oral chemotherapy (Lomustine) and radiotherapy. The patient's condition was systematically improving. The patient and her family received care and support from the therapeutic team, which made it possible for the patient to return back home after eight months on the ward. It made the patient function alone and lead active social life despite of the limitations caused by cancer.

**Conclusions:** It is not advisable to make quick decisions of ceasing the treatment only because of the diagnosis of inoperable brain malignant cancers. The therapeutic team play a significant role in the process of restoring the vital functions of the patient and in the entire therapy. Especially the family, who are the active members of the team, become very important. Education and the family support is essential and helps to tackle such a difficult chronic disease with bad prognosis. It also helps to understand specific symptoms and behaviours of the patients with brain cancer much better. Furthermore, it helps to lower the level of the family's anxiety and frustration. Active cooperation of the family and the therapeutic team allows the patient to get back home AFVSS.

**Keywords:** Brain tumor, astrocytoma GII/GIII, palliative care

### Streszczenie

**Wstęp:** Złośliwe nowotwory centralnego układu nerwowego w konsekwencji ostrych objawów i nagłej progresji choroby stawiają w poczuciu bezradności zespoły terapeutyczne oddziałów medycyny paliatywnej. Trudności w podjęciu leczenia oraz braku doświadczenia w opiece nad pacjentami z tego typu nowotworami, są powodem podwyższonego wskaźnika umieralności pacjentów.

**Cel badania:** Przedstawienie leczenia klinicznego oraz opieki nad pacjentką z rozpoznaniem astrocytoma GII/GIII (ICD 10 C-71).

**Materiał i Metody:** Analiza dokumentacji medycznej, obserwacja i wywiad pielęgniarski z rodziną pacjentki.

**Opis przypadku:** 39-letnia kobieta nigdy wcześniej nieleczona onkologicznie została przekazana z oddziału neurochirurgii do oddziału medycyny paliatywnej z rozpoznaniem guza mózgu astrocytoma GII/GIII bez kontaktu i brakiem rokowań na poprawę stanu. Po podjęciu leczenia objawowego, zastosowaniu terapię skojarzoną: chemioterapią doustną (Lemustyna) oraz radioterapię. Stan pacjentki ulegał systematycznej poprawie. Opieka i wsparcie zespołu terapeutycznego udzielone chorej oraz jej rodzinie pozwoliły nie tylko na powrót pacjentki do domu po ośmiu miesiącach pobytu na oddziale, ale również na jej samodzielne funkcjonowanie i aktywny udział w życiu społecznym pomimo ograniczeń, jakie niesie choroba nowotworowa.

**Wnioski:** Pomimo nieoperacyjnych nowotworów złośliwych mózgu nie należy zbyt szybko podejmować decyzji o zaprzestaniu leczenia pacjenta. W procesie terapii i powrotu najważniejszych funkcji życiowych pacjenta dużą rolę odgrywa zespół terapeutyczny, szczególnie rodzina, która staje się aktywnym członkiem tego zespołu. Edukacja i system wsparcia dla rodziny pozwalają na zmierzenie się z trudną sytuacją choroby przewlekłej o złym rokowaniu, oraz zrozumienie specyficznych objawów i zachowań pacjenta towarzyszących tego typu nowotworom. Pozwala to na zmniejszenie poziomu lęku i frustracji członków rodziny. Aktywna współpraca rodziny z personelem medycznym umożliwia powrót pacjenta do domu w stanie stabilnym.

**Słowa kluczowe:** guz mózgu, astrocytoma GII/GIII, opieka paliatywna

## Introduction

As per the morphological classification the most common brain cancers are: glioblastomas, astrocytomas, oligodendrogliomas, ependymomas.

Astrocytoma is a cancer originated in a particular kind of glial cells called astrocytes. The WHO distinguishes IV grades of astrocytomas (75% of gliomas): I Pilocytic astrocytomas; II Diffuse astrocytomas; III Anaplastic astrocytomas; IV Astrocytomas grade IV (glioblastomas) [1]. Incidence rate of astrocytoma for 100 000 people is 3.7/100 000 for men and 2.6/100 000 for women [2]. During the last 20 years the upward tendency is observed for brain tumors (approx. 1% per annum), especially with people from 38 to 44 years old [3]. Astrocytoma is more common for Caucasian population, especially from more industrial areas of Europe, America and South Asia than with people originated from Asia or Africa [4].

Malignant glioblastomas grade II are characterized by the local recurrence, which is caused by their aggressive growth and progression to more malignant glioblastomas. Although they are called 'low malignant tumors', they are characterized by a slow clinical progression, which is fatal [5]. Oligodendrogliomas are situated within the grey substance and they often broaden the engaged corner. Diffuse astrocytomas (grade II as per the WHO) are developing usually under the cortex in the white substance and they are occupying the decreasing part of the frontal, parietal and temporal lobe, the less rarely – the occipital lobe [6].

The first symptoms of glioblastoma patients can be: disorientation, difficulties with reading, nausea, headaches, intracranial high pressure and epilepsy attacks. Prognostic factors of the survival length (LOS) are: H-P type of the cancer, tumor localization and therapeutic possibilities.

Five year survival is less than 5% for glioblastoma and an average life survival rarely exceeds 12 months. Most of the patients will have recurrence of glioblastoma during 6 – 12 months [7].

## The aim of the case

This article is about the clinical description and the process of the nursing care of the patient with astrocytoma GII-GIII, under the palliative care ward and the supervision of the domestic palliative care team.

## Data and Methods

Information about the patient was gathered by using the nursing survey and was completed with a medical data analysis at Medica Center Samarytanin in Opole. The medical data consisted of: CT, MRI, results of diagnostic research, medical consultation results, hospital discharge, nursing observation and interview. The patient along with her family was the object of the observation. The family was the essential part of the therapeutic team. The main aim of the observation was: general patient's condition - physical and sociological, vital parameters control, neurological dysfunction observation and the therapeutic team support estimation on the patient's function as well as the therapeutic team work effects rate with the patient's family.

## Case Study

39 year old woman, never before complaining about any headaches or other neurological pains, on 16 January 2012 had an epilepsy seizure in Germany. The patient was transferred to a local hospital – to the neurological ward, the head CT was performed. It showed a massive hyperplasia process in her left brain. The patient was conscious, auto and allopsychic orientated when at the hospital admission. There was discrete senso-moto aphasia without any neurological deficit in the cranial and peripheral nerves. The patient had no other complaints. On 20 February 2012 the stereotactic needle biopsy was implemented. The test result was Astrocytoma (Grade II as per the WHO).

On 3 February 2012 the patient was transferred to Poland. The patient's condition was gradually worse-

ned. The patient was conscious with a limited verbal contact, decumbent with a discrete right upper limb paresis and the orthostatic impossibility. The mental state – disoriented. Excitation states interchangeably occurred with lower moods, predominantly apathy. The brain MRI was implemented, which stated an irregular digital infiltration structure of the left brain in: temporal, parietal and occipital lobe. The first tumor spectroscopy valuation showed an elevated signal of choline. It stated that it was the high malignant tumor from GII to GIII. The patient was disqualified from the radical surgery treatment. After radiotherapy consultation the patient was also disqualified from the radiotherapy treatment. Drugs: Mannitol dosage 4x100ml. i.v., Dexaven 3x4mg i.v., Controloc 2x1amp. i.v., Amizepin 3x200mg p.o., Fragmin 2500j s.c. and infusions were implemented. The patient was transferred to the palliative care ward where she was treated with an oral chemotherapy. The patient received Lomustine CCNU VI cycle in periods of 1-2 months. The treatment started in February 2012 in the palliative care ward and was continued at home, after leaving the ward.

During the first month the combination treatment was applied with the radiotherapy. On an outpatient bases ambulatory radiotherapy 1 dose 6Gy photons X 6 MV was applied at the brain area. Then the patient was treated with II cycles of CCNU. After receiving the treatment the state of the patient radically improved. She was qualified to the next radiotherapy. From 12 June to 2 July 2012 the patient received radiotherapy photons X 6 MV on her left brain tumor df 2Gy/tumor to the total dose of 30 Gy/tumor. In September 2012 the brain MRI checkup stated the mitigation of the tumor mass without an evident progression. On 1 September 2012 the patient was discharged from the palliative care ward and was recommended to be under supervision of the domestic palliative care team.

#### **Plan of the palliative care of the patient with the brain cancer in the palliative care ward**

The patient with the process of the brain cancer needed a special care of the therapeutic team along with her family, who was confronted with the dynamic process of the neurological symptoms. Dysfunctional contact was the main difficulty along with a stymied communication with her environment. It appeared in an articulation dysfunction and a lack of understanding of any commands as a result of the increasing pressure of the intracranial. In consequence it ended up with the functional dysfunction of the central nervous system (CNS), which was in charge of the articulation and responded to external stimuli. The patient's cognitive functions were impaired. The pharmacological intervention with Mannitol was applied, which was anti swelling. Also adequate doses of glucocorticoids such as: Dexaven and Metypred were applied.

The lack of the logical contact with the environment and variable moods ended up with the family anxiety and their care withdrawal. The family was

implemented with a skilful education and a psychic support by the therapeutic team. Those helped them to understand reasons and symptoms of the patient's behaviour due to her clinical state.

A lower kinesthetic activity of the patient and her limited contact ended up with a basic nursing hygienic care and an anti bedsores prophylaxis. Problems with swallowing and self-feeding occurred. Therefore the essential aim of the care was to check the level of albumin and total protein in blood serum. When the decline of the above parameters was observed the intravenous parenteral nutrition was applied such as Kabiven. Both above parameters were controlled regularly. Side effects of the chemotherapy (Lomustine) were: fatigue, weakness, nausea, vomit and dysfunction of the hematopoietic bone marrow (pancytopenia). The most important element of the care was to check the blood parameters (level of the white blood cells, hemoglobin and platelets). The main problem was thrombocytopenia. There is a possibility to higher the level of platelets by applying drug therapy Cyclonamine oral or intravenous.

Neurological symptoms such as articulation dysfunction up to short amnesia were the side effects of radiotherapy. The patient was using incomplete sentences forgetting words. In order to correct the speech dysfunction the patient was under the speech therapist care and the therapeutic team (repeating the syllables, completing the missing words). During three weeks the patient was returned with the articulation. Primer reading as well as narration, what the patient can see on the family pictures, stopped the short amnesia. Logical contact returned back in phases. Higher psychical activity such as: empathy, censorship of the speech and adequate behaviour were systematically improved during the next phases of the therapy. In parallel to pharmacological treatment there was applied an intensive rehabilitation. The intention of this was to orthostatic the patient and take a crack of walking.

The work of the domestic palliative care team played a vast role in preparation of the patient's family to continue the care plan in domestic environment after eight months of staying at the palliative care ward.

#### **Domestic Palliative Care Team care plan of the patient**

While at home the patient is cared by her family, who is the key team member of the therapeutic team. Every member of the domestic palliative care team was appointed with a precise task over patient's care at her home.

Follow-on the oral chemotherapy treatment at home caused a number of side effects. The nurse had to identify patient's and her family problems, which occurred during the treatment. The key element of the care was to control taking the drugs the by the patient. The patient and her family had a sense of security and were in control of the side effects such as: vomit, diarrhea or weakness, when being well stocked in drugs. Nurse was responsible for the family's

education on the performance of the pharmacological substances and ways of their dosage. The regular control of the parameters of the blood was the next important element of the nursing care. It helped to escape a rapid decrease of platelets and apply at the right time Ethamsylate in order to higher the level of the platelets.

At home the patient experienced the late side effects of radiotherapy such as: faltering balance, paresthesia of distal parts and periodic headaches. The aim of the nurse was to educate the family on the observation of the disturbing neurological effects and showing them the ways of tackling the difficulties.

In order to secure the patient with a safe ambulation at home, especially from bed to the toilet, so the patient could not harm her body when downfall, the nurse was providing the patient's caretakers with the right indicators.

The patient was secured with a safe ambulance at her own home, without any risk of downfall, because of her family's positive attitude towards the indicators.

An important key element of the nurse's observation was the patient's diet. The patient was discharged from the ward with a low level of the total protein and albumins. The nurse made instructions on the diet, which had to be protein-rich and at the same time to be supplemented with protein preparations. A control examination of protein and albumins level showed the growth of the indicators due to nurse's instructions to the protein-rich diet.

The patient's movement was limited because of the weakness due to the treatment and the disease. Therapist's visits at home were aimed to present the range of every day, self done exercise by the patient supported by her family, such as: active breathing and motor coordination exercises. Regular everyday exercises helped the patient to self orthostatic and gain the complete movability in her movable joints.

The family was anxious about performing their self care over the patient because of their own limits and helplessness, which caused their sadness and sorrow. At some point this situation was difficult to tackle and it was ended up by the family's rebellion and bitterness. The nurse's and other medical personnel aim, was to identify the psychic state of the members of the family. It was done mostly when making conversations. The aim of the therapeutic team was to support the family with conversations and allow the contact with the psychologist. The patient and her family were comfortable and ready to tackle new difficulties because of the presence of the entire team.

The therapeutic team was in charge of the care over the patient and her family. The palliative domestic team's support allowed the patient to learn independence in her environment when under the therapeutic team supervision.

## Conclusions

The intended goal of bettering off the clinical state of the patient was achieved. Although her inoperative brain tumor, the patient was discharged from the palliative care ward with a clinically stable condition after applying the symptomatic treatment. Aside from chemotherapy, radiotherapy and pharmacology, rehabilitation played a key role in an entire treatment leading to the patient's self move. It was essential to keep an adequate contact with the patient's family by the therapeutic team during the clinical treatment of the patient at the palliative care ward.

Spent time to introduce the family members to the therapeutic team at the ward allowed the family to take over the patient's care at home. It enabled the patient to return to her environment as well as to perform the future care by her family. The family plays a key role during the treatment and it is an active member of the therapeutic team. Educating the family about the symptoms and mechanisms of the disease and its side effects helped to better understand and notice the symptoms and changes within the patient. Due to the cooperation of the team and the family the quality life of the patient systematically improved during the treatment.

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