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Case Report

Medical and Bioethical Issues in a Pregnant Woman with Epilepsy: Case Report

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A B S T R A C T

A case report of a minor, pregnant girl with epilepsy caused by a brain tumour is presented. There are several aspects which make the presented case complex from medical, but also from the bioethical point of view. The decision about keeping the pregnancy or not is the most important bioethical dilemma for the patient and family. A detailed medical multidisciplinary approach and later balanced explanation of the medical situation to the patient are of extreme value for helping the patient's decision. It is also important to enhance the activities in pregnancy counselling for a woman with epilepsy which will result in a planned pregnancy as a prerequisite for a positive pregnancy outcome.

Key words: *epilepsy, pregnancy, brain tumour, bioethical dilemma, multidisciplinary approach*

Science is for life: society is for persons: this is a fundamental ethical obligation.
(E, Sgreggia, Bio-Ethics, 1994)

Introduction

The treatment of pregnant women with epilepsy (WWE) needs a specific approach not only from the medical but also from the bioethical point of view. There is a dilemma how to achieve best therapeutic results (seizure control) by choosing effective antiepileptic drugs (AEDs) in an adequate dosage with the lowest teratogenic risk according to today's evidence[1–4]. There is a considerable evidence that the use of AEDs is associated with an increased risk for birth defects[1,5–7]. Further, women with epilepsy have more complications during pregnancy and delivery than women in general[8–10]. If epilepsy in pregnant women, such as in the present case, is caused by a brain tumour, the bioethical dilemma is multiplied.

Case Report

A seventeen-year old girl, accompanied by her parents, needed a neurological consultation because of frequent epileptic seizures which were aggravated during the last two months. The seizures were of a partial complex type, and in some cases with secondary generalisation. According to medical history data, seizures started at the age of 12 following a brain tumour operation (astrocytoma). The outcome of the brain operation was satisfactory, without neurological deficits. The patient stated that after the neurosurgery she had not been hospital-treated and clinically controlled (outpatients) on a regular basis. Her therapy was taken regularly (carbamazepine, Tegretol CR, 800 mg orally *per* day; phenobarbital, 200 mg orally *per* day). The patient was for 10 weeks in an unplanned pregnancy. The examination showed a discrete right central hemiparesis (the patient was dragging her right foot and her right hand was uncoordinated) and according to psychological testing she was anxious and frightened. The electroencephalography recordings (EEG) were typical for a focal discharge (theta and delta waves above the left temporo-parietal region). Magnetic resonance imaging (MRI) confirmed a tumour in the left parasagittal temporo-parietal region of the brain (Figure 1a).

The complexity of the situation was explained to the patient, her partner, and her parents and it was decided to continue the pregnancy. A multidisciplinary approach, which included additional neurological, neurosurgical,

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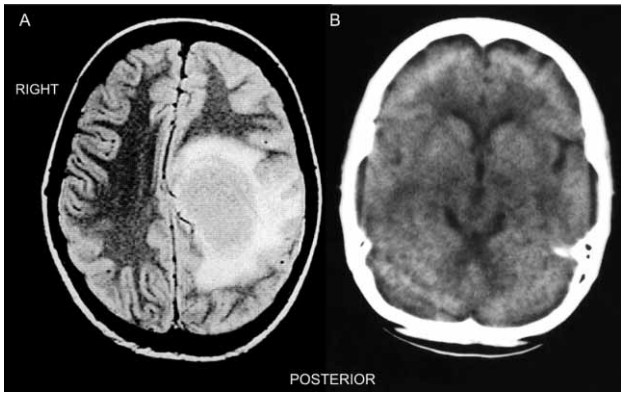

Fig. 1. Magnetic resonance imaging – brain tumour in the left parasagittal temporo-parietal region (a); Computed tomography – postoperative encephalomalacia of the left parietal area (b).

gynaecological and clinical pharmacological consultations, was used. Pharmacotherapy was adjusted (reduction of drugs dosage; phenobarbital 50 mg *per* day and carbamazepine 400 mg *per* day) and folic acid was included (Folacin 5 mg orally *per* day). The patient was monitored intensively and there were no epileptic seizures. At the end of the eighth month of the pregnancy the caesarean delivery of the healthy baby was performed simultaneously with a neurosurgical tumour removal (pathohistological finding: the third degree astrocytoma). The patient's recovery was good (no complications) with a right central hemiparesis. EEG was normal and computed tomography (CT) showed encephalomalacia of the left parietal area as well as a discrete larger lateral ventricle on the same side (Figure 1b).

During the next three years the patient was well controlled (no seizures and no recurrence of the tumour) and the development of the child was normal. The patient became pregnant again, but because this was a planned pregnancy pharmacotherapy was adjusted before (folic acid, lower dose of carbamazepine). The patient had a normal pregnancy and delivered a healthy baby to term.

Discussion

There are several aspects which make the presented case complex from the medical and bioethical point of view and this includes, from a different perspective, physicians, the patient and her family. Pregnancy in WWE is related with a higher risk of complications and other medical problems than in normal population[9,10]. There is an increase of caesarean delivery in WWE taking AEDs[9]. A brain tumour as a causative factor of epileptic seizures during pregnancy represents a therapeutic challenge[11–13]. Pregnancy is described as an aggravating factor for brain tumours (acceleration of tumour growth, increase of peritumoral oedema and the immunotolerance to foreign tissue antigens that is proper to pregnancy) in general[11]. As described before, the decision about keeping the pregnancy influenced the subsequent intensive medical monitoring and pharmacotherapy adjustment. Medical monitoring is of utmost importance in order to prevent health deterioration of the mother and her foetus and to lower the risk in such complex cases[12,13]. AEDs increase the risk of foetal malformations compared with the general population (3% in general population, 7% with AED monotherapy, and 15% with two or more AEDs) so the drug should be chosen in order to decrease the risk of major congenital malformations[3,6,10]. The same is the reason for folic acid supplementation and the recommendation is to introduce it preconceptionaly, as in our patient, before the second pregnancy[14].

The decision about keeping the pregnancy or not is the most important bioethical dilemma for the patient (and her family)[15]. A detailed medical multidisciplinary approach, thorough discussion and later a balanced explanation of the medical situation to the patient are of extreme value for helping the patient's decision. Further, it is important to enhance the activities in pregnancy counselling for WWE which will result in a planned pregnancy as a prerequisite for a positive pregnancy outcome.

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MEDICINSKE I BIOETIČKE DILEME U TRUDNICE SA EPILEPSIJOM.PRIKAZ SLUČAJA

S A Ž E T A K

Prikazujemo malodobnu trudnicu koja boluje od epilepsije uzrokovane tumorom mozga. Slučaj je kompleksne prirode s više aspekata, kako medicinskog tako i bioetičkog. Zadržati trudnoću ili ne bila je najvažnija bioetička dilema za roditelje i trudnicu. Za takvu odluku je neophodan multidisciplinarni pristup problematici. Želimo ovim prikazom istaknuti da je planiranje trudnoće u žena sa epilepsijom od presudne važnosti za majku i dijete.