

WORLD NEURON CONGRESS

November 26-27, 2018 Helsinki, Finland

Establishing the proper approach to an effective surgical treatment for the Meningioma

Mihai Stelian Moreanu¹, Marina Cozma¹, Aura Sandu²

¹University of Medicine and Pharmacy "Carol Davila", Romania

²Bagdasar Arseni Hospital, Romania

Meningiomas are benign extra-axial tumors, originating from the meningeal arachnoidal cells, making up 20% of the intracranial primary tumors. Surgical management of meningiomas is one of the most challenging procedures posing a high risk of affecting the critical neurovascular centers of the brain. This paper attempts to identify the way Para clinical brain investigations coupled with a well-established surgical procedure lead to an efficient and strategic treatment of meningioma, starting with a real case of a 50-year-old woman. The clinical background of the patient was represented by frontal headaches, rare epileptic crisis, sudden dizziness, blurry vision, loss of equilibrium and exhaustion. The Para clinical investigation included contrast MRI showing a homogenous irregular expanding tumor process in the frontal-orbital left space. Localization, depth, diameters were also shown on MRI. Moreover, Digital Angiography was used to identify the source of vascularization, highlighting a slight displacement of the arterial irrigation of Willis Polygon towards the tumoral process. These symptoms and investigations led to diagnosing a sphenoid left wing meningioma. The treatment was mainly focused on the neurosurgical intervention, having several purposes: rejecting the meningioma, establishing the anatomo pathological diagnosis, developing the therapeutic plan. The surgical procedure included the following steps: positioning, incision, craniotomy, tumor exposure, devascularization, decompression, extra capsular dissection, tumor removal, closure. The surgical approach was on the frontotemporal side and after a step-by-step incision, the tumor was exposed. The excision strategy was focused on fragmentation and mild dissection of the surrounding brain tissue. Also, while the tumor surface coagulated constantly, it lost volume and allowed an easy dissection. The final result was favorable – the patient regained her balance. Getting a better understanding of the neurosurgical steps of treating meningiomas will lead to finding strategies that will improve the patient's treatment and his quality of life.

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Biography

Mihai Stelian Moreanu is currently one of the top medical students at Carol Davila University of Medicine and Pharmacy. His interests lie in neurological implications of diseases and neurosurgery, having already completed his medical summer stage at Bagdasar-Arseni Clinical Emergency Hospital, the best neurosurgical public center in Bucharest. His medical background includes the participation to numerous national and international congresses in Romania (IMSCB, ZEM, MEDICS) and also abroad (FEBS 2018) gaining a vast understanding of the mechanisms of brain functioning. Also, during his medical practice he assisted to numerous surgeries and participated to Romanian Student Surgical Society activities getting hands-on experience during surgical workshops.

moreanumihai@yahoo.com

Marina Cozma is currently studying at the Carol Davila University of Medicine and Pharmacy, being a medicine lover and an aviation enthusiast, dividing her time between medicine and flying. She is profoundly interested in surgery and the nervous system and has just completed her summer stage at the Washington Polyclinic in Bucharest, at the Cardiovascular Centre. Together with participating in the hardest surgeries performed in this hospital, she has perfected her surgical skills through participating not only at national medical congresses (IMSCB, ZEM, National Anatomy Congress), but also international (FEBS 2018). Her poster at the National Anatomy Congress was ranked in the Top Ten and she is in the process of becoming a trainer at the Romanian Student Society of Surgery.

cozmamarina@yahoo.com