

Multimodal therapeutical-rehabilitative approaches in a complex case of pathology including possibly evolving discariotic type- case report.

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Abstract

Introduction Having the patient's consent and The Teaching Emergency Hospital "Bagdasar-Arseni" Ethics Committee N.O 20270 from 26.06.2019, the current case report presents the case of a female patients with both hemiplegia following a thalamic vascular accident and a long history of neglected auricular melanoma. The management of a patient diagnosed with melanoma is a complex one, involving wide local excisions with safety margins, with sentinel lymph node biopsy. Auricular melanomas have recently evolved from radical procedures involving the amputation of the involved organ, to much less radical procedures, which help save more of the patient's tissue and functionality. (1) Another important factor that threatens the rehabilitation process in the case of hemiplegic patients is the presence of clinical depression, both as a pre-existing comorbidity and as a common psychiatric complication of stroke. (2) Depression jeopardizes the patient's quality of life and increases mortality. (2) There is also relevant date supporting the hypotheses that depression history is associated with melanoma risk, although no effect on survival was observed. (3) **Materials and Methods** A 70 years old patient, which suffered right thalamic vascular accident in december 2018 was admitted in our Neuromuscular clinic division with the following comorbidities: basal-cell carcinoma (BCC), diagnosed 20 years ago, with slow evolution. When admitted in our division, the patient presented with a moderately large ulcerated tumor in the temporal region and the left auricular pavilion – with surgical indication. She was also diagnosed with arterial hypertension stage III, chronic, cardiac insufficiency class III NYHA, chronic cervicgia and lumbosacralgia, class II obesity, clinical depression. She was admitted into our clinic for hemiplegic motor deficit, sensibility disorders, severe locomotor and self-grooming dysfunction. **Results** The patient improved on most of the assessment scales/scores implemented in our Clinic's Division Motor FIM (Functiona Independence Measure) from 35/91 to 38/91, FAC (Functional Ambulation Categories) from 0/5 to 1/5, GOS-E (The Extended Glasgow Outcome Scale) from 4/8 to 5/8. The most important improvement in our patient's evolution was her ability to start walking again. During her admission into our Clinic, she was also briefly admitted into the hospital's Plastic Surgery Division, where she received the necessary surgical treatment for the melanoma. **Conclusions** Following a complex neuro-recovery program developed by a multidisciplinary team made of doctors, kinesio-therapists, middle and allied health personnel, the patient had an extremely good evolution (during a short period of time) - attested on the scales and also - on a psycho-cognitive and behavioral level.

Key words: *neuromuscular rehabilitation, stroke, hemiplegia, melanoma, basal-cell carcinoma,*

Introduction

The management of a patient diagnosed with melanoma and hemiplegia following a right thalamic vascular accident is a complex one. The treatment of the melanoma usually involves wide local excisions with safety margins, with sentinel lymph node biopsy. Auricular melanomas have recently evolved from radical procedures involving the amputation of the involved organ, to much less radical procedures, which help save more of the patient's tissue and functionality. (1) Another important factor that threatens the rehabilitation process in the case of hemiplegic patients is the presence of clinical

depression, both as a pre-existing comorbidity and as a common psychiatric complication of stroke. (2) Depression jeopardizes the patient's quality of life and increases mortality. (2) There is also relevant data supporting the hypotheses that depression history is associated with melanoma risk, although no effect on survival was observed. (3) Depression is also a consequence of stroke, being one of the most common functional impairments after stroke, along motor deficits, language troubles neglect, sensory deficits, cognitive dysfunctions, visual field deficits. (5)

Method: case presentation

The informed consent of the family and the approval of the Ethics Commission of „Bagdasar-Arseni Hospital” in Bucharest were obtained for the communication of this case.

We present the case of a 70 years old patient, which suffered a right thalamic vascular accident on December 2018. The date of the stroke was consistent with literatura data (6,7,8). For ischemic stroke, there are two incidence peaks: one in the winter (December-January), with a higher value, and the second one in the summer (July). Twenty years ago, she was diagnosed with basal cell carcinoma (BCC), with slow evolution. When admitted in our division, the patient presented with a moderately large

ulcerated tumor in the temporal region and the left auricular pavilion – with surgical indication. She also presented the following comorbidities: arterial hypertension stage III, chronic cardiac insufficiency class III NYHA, chronic cervicgia, and lumbosacralgia, class II obesity, clinical depression. Her personal pathologic history included acute renal failure, the insertion of an indwelling catheter, respiratory virosis associated with acute bronchitis, a flare of a chronic urinary tract infection. She was admitted into our clinic for hemiplegic motor deficit, sensibility disorders, severe locomotor and self-grooming dysfunction.

At her admission, the general state of the patient was stable from a cardiovascular, respiratory, digestive and renal point of view (respiratory rate – 18/min, heart rate – 76 bpm, blood

pressure- 165/90 mmHg). She presented with a moderately large ulcerated tumor in the temporal region and the left auricular pavilion. The clinical examination revealed erythematous lesions with small papules in the left hemibody, later diagnosed as a fungal infection.

Regarding the neuromioarthrokinetic examination, the patient was conscious, alert, cooperant, temporospatial orientated. The cranial nerves examination revealed a left central facial paralysis, horizontal nystagmus, superficial sensibility disorders in the left hemibody. The patient has no muscle control in the left inferior limb, and 5/5 MRC in the right inferior limb. The muscle force in the left superior limb was 4/5 proximal, 2+/5 intermediate and 2/5 distal. In the right superior limb, the muscle force was 5/5 MRC on all levels. Reflexes osteodontinous were accentuated in the left

superior limb, and they were abolished in the left inferior limb

The patient was clinically and functionally assessed, according to the standardized protocols implemented in our clinic by means of the assessment grading scales: FAC (Functional Ambulation Category) = 0/5, FIM (Functional Independence Measure) cognitive = 35/35, FIM motor = 35/91, Modified Rankin Scale = 5/5, The Glasgow Outcome Scale Extended (GOS-E) =4/8, Ashworth = 0, Penn = 0, QoL (Quality of Life) (Flanagan completed by Burckhard) =69/112. MMSE (Mini-mental state examination) and MoCA (Montreal - Cognitive Assessment) were impossible to test at admission due to visual impairment.

The patient was paraclinically examined in order to evaluate his biological reserve and his availability in bearing the recovery program. To this purpose, both laboratory and imaging investigations have been used.

The radiography of both knees showed osteoarthritis in both knees. The right knee radiography showed cartilage erosion, osteophytes in the tibial epiphysis and the femoral condyles. Superior and inferior marginal osteophytes in the patella. Radiography of the left knee showed cartilage erosion and loss of space in the articulation.

The cerebral IRM showed sequelae modification following a right thalamic cerebrovascular accident and cortical and sub-cortical demyelinating lesions on both sides, more accentuated on the right. Nodular lesion of 11/5/6 mm localised on the falx cerebri was also present.

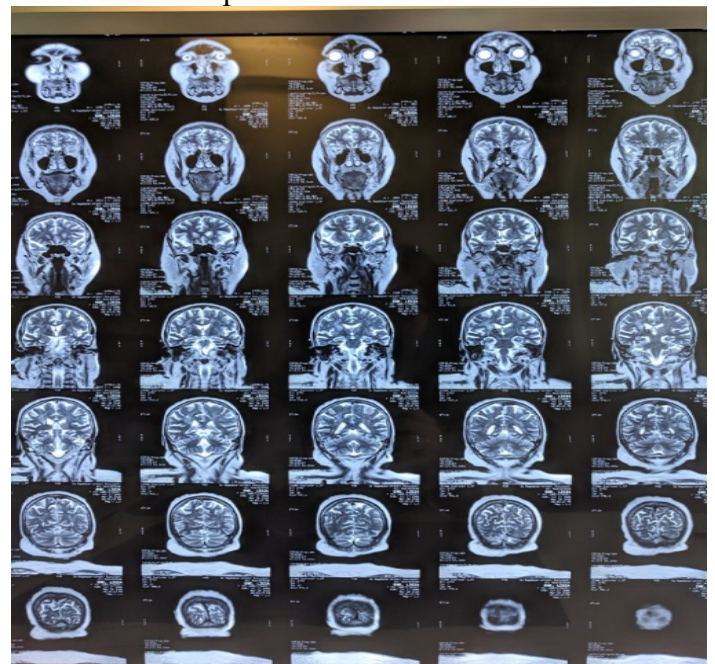


Figure No. 1 – Cerebral IRM

The main general objectives of the neurorehabilitation program were: combating pain and regaining functionality that allows the patient self-grooming and locomotion, treating the associated oncological diseases and preventing complications, improving the patient's psycho-cognitive, mental and emotional status and obtaining socio-professional, respectively family reestablishment in order to improve patient's quality of life

Evolution

During the hospital stay, the patient underwent a complex recovery program which included pharmaceutical treatment with: injectable anticoagulant type HGMM, per os anticoagulant, neurotrophic, xanthine oxidase enzyme inhibitor, nervous system stimulant antialgic, calcium channel blocker, antidepressant, anxiolytic, statin, silymarin, dietary supplements with vitamin D, calcium, magnesium and zinc, iron supplement, urinary antiseptic and physical treatment (kinesiotherapy). The recovery team collaborated with other specialists to provide the patient with a complete, individualized recovery plan, based on the particularities of the case. The main general objectives of the rehabilitation program were combating pain and regaining functionality that allows the patient self-grooming and locomotion, improving the patient's psycho-cognitive, mental and emotional status and family reestablishment in order to improve patient's quality of life.



Figure No.2 – The patient during the physical treatment

A Doppler ultrasonography of the left inferior limb is performed, following algic symptoms in the respective limb. No deep vein thrombosis (DVT) signs were present. On the same day, a plastic surgical consult is requested. Surgical excision of the left temporal and auricular tumor is recommended. Following the worsening of the

patient's psychological symptoms, a psychiatric consult is also requested. The patient was diagnosed with organic anxiety disorder, which was treated with lorazepam 2 mg per day.

After the surgical excision of the auricular tumor, the patient presented with auditory symptoms. A new plastic surgery consult is requested. The plastic surgeon observed the skin graft, which was small non-epithelized areas and recommended an otolaryngology consult, which was performed the next day. The otolaryngologist recommended otic aspiration, after the healing of the surgical scar.

A neurology consult was also performed. The neurology specialist recommended an ongoing recovery treatment, antihypertension treatment, and clinical reevaluation when needed.

After a few weeks, an inferior limb asymmetry is noticed. Consecutively, a Doppler ultrasonography of the left inferior limb is performed. The patient is diagnosed with deep vein thrombosis in the left popliteal vein. The patient starts treatment with injectable anticoagulant type HGMM, topical heparinoids, and bioflavonoids. A third Doppler ultrasonography of the left inferior limb is performed after a week. There is no improvement of the deep vein thrombosis.

Afterward, a hyperchromic lesion is observed in the left frontotemporal area. It is advised by the plastic surgery team to perform a dermatological consult, followed by a biopsy and a histopathological examination of the lesion. Following the dermatological consult, a local relapse of the basal-cell carcinoma cannot be excluded. A surgical consult is recommended.

Two weeks after the diagnosis of the deep vein thrombosis, another cardiological consult and another Doppler ultrasonography are performed. There is a clear improvement in the sonographic aspect. It is recommended that the injectable anticoagulant type can be replaced with a per os anticoagulant.

A day before the patient's discharge, a last surgical consult is performed. The histopathological examination is again strongly recommended to the patient. She refuses, and asks to be released from the hospital and sent home.

Results

The patient remained afebrile, cardio-respiratory balanced throughout the hospital stay and had a favorable evolution from a pain-dysfunctional point of view. Before discharge, the results of the recovery

program were evaluated using the same scales applied at the admission (Table No.1).

	ADMISSION	DISCHARGE
Modified Rankin Scale	5	4
STRATIFY Scale for Identifying Fall Risk Factors	0/5 (low risk)	2/5 (major risk)
FIM - cognitive	35/35	35/35
FIM - motor	35/91	38/91
QoLzz	69/112	72/112
Asworth, Penn	0/16	0/16
FAC	0/5	1/5
GOS-E	4/8	5/8

Table No.1 - Evaluation scales at admission and discharge

Following the pharmaceutical treatment in a period of several months, her blood tests also improved significantly. (Table 2)

	Admission	Two weeks later	Final discharge (five months later)
Albumina	2.9 g/DL	2.9 g d/DL	3.4 g/dL
Fier	34 ug/dL	70 ug/dL	50 ug/dL
GGT	102 U/L	68 U/L	50 U/L
NE%	77.0	75.1	67.4
LY%	12.8	15.6	20.7
LY#	0.8 x10 uL	1.2	1.1
RBC	2.98	3.29	3.65
HGB	9.8	10.4	11.7
HCT	29.2	32.1	34.9
MCH	32.7	31.6	32.0
RDW	18.1	17.8	13.5
MPV	10.5	9.7	10.8
VSH	68	62	56

Table No.2 – Evolution of blood tests

Prognosis

The patient's prognosis is mainly favorable (ad Vitam – mainly favorable, without taking into consideration the oncological prognosis, ad functionem – reserved). The mobility recovery was hampered by the cardiologic comorbidities, especially the chronic cardiac insufficiency and the psychological symptoms, which worsen the prognosis. The ad laborem prognosis is not necessary to be evaluated.

Conclusions

The combined and complex rehabilitation led to a significant remission of the hemiplegic motor deficit and sensibility disorders. The favorable progression emerged after a sustained, sequential, stage-adjusted and persistent therapeutic rehabilitation team-run program in the context of both the presence of auricular melanoma and clinical depression.

All of the mentioned factors improved the patient's quality of life.

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