

Clinical-evolutive particularities and a multimodal therapeutic-rehabilitative approach, as well as through connected care approach, in the case of hemiplegia after ischemic cardio-embolic stroke within a poly-pathological context – A case report

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Abstract

Introduction: Cardiac embolism is one of the most common causes of embolic CVA. The recovery of patients with cardio-embolic stroke is a complex process which requires taking into account all associated pathologies (e.g. diabetes mellitus) that can play a decisive role in the evolution of the patient. A multidisciplinary team is required for such a purpose.

Material and methods: The paper presents the case of a 63-year old patient with hemiplegia after an ischemic cardio-embolic stroke within a poly-pathological context. In January 2019, the patient suffered from an ischemic stroke in the carotid region with an ataxic spastic hemiparesis and left facial paresis with cerebraesthesia and bradyphasia and he was admitted to “St. Ioan” Clinical Emergency Hospital in Bucharest. After the patient was stabilized and received specialized treatment, following the investigations and the interdisciplinary consultations, he received indication of neuromuscular recovery and for this reason he was admitted to our clinic.

The patient was clinically and functionally evaluated, according to the standardized protocols implemented in our clinic, through the assessment scales (MMSE, GOS-E and Rankin, MoCA, FIM, FAC, QoL, Asworth and Penn) and also para-clinically, in order to evaluate his biological reserve and his bearing availability of the recovery program.

Results: After a complex neuro-recovery program undertaken by a multidisciplinary team formed by doctors, kinesiotherapists, medium healthcare and paramedical personnel, the patient displayed a slowly favorable evolution (hardened by his multiple associated diseases due to the above-mentioned co-morbidities) from a functional point of view with the improvement of the walking program and the increase in the muscle force and self-autonomy.

Conclusion: The recovery of patients with cardio-embolic stroke is a complex process, which requires taking into account all associated pathologies that can play a decisive role in the evolution of the patient. A multidisciplinary team is required for such purposes.

Key words: *stroke, hemiplegia, poly-pathologic, ischemic,*

Introduction

Cardiac embolism is one of the most common causes of embolic CVA.(1) It is also responsible for some of the CVAs which are considered cryptogenic, that is, without a deceiving cause.(2) Because cardio-embolic causes leading to stroke are pretty well-known (atrial fibrillation, bacterial endocarditis, thrombi, or intra-cardiac tumors), the incidence of cardio-embolic stroke has decreased in recent years due to prophylaxis, imaging and therapeutic progress. (3) The recovery of patients with cardio-embolic stroke is a complex process which requires taking into account all associated pathologies (e.g. diabetes mellitus) that can play a decisive role in the evolution of the patient.(4) A multidisciplinary team is required for such a purpose. (5, 6)

Material and methods: The present paper presents the case of a 63-year old patient who was admitted to our clinic for: ataxic spastic hemiparesis, left

facial paresis, cerebraesthesia, bradyphasia, locomotor dysfunction and severe self-care, stage recovery treatment. In January 2019, the patient suffered from an ischemic stroke in the carotid region with an ataxic spastic hemiparesis and left facial paresis with cerebraesthesia and bradyphasia and he was admitted to “St. Ioan” Clinical Emergency Hospital in Bucharest. After the patient was stabilized and received specialized treatment, following the investigations and the interdisciplinary consultations, he received indication of neuromuscular recovery and for this reason he was admitted to our clinic.

Among the personal pathological history of the patient: insulin-dependent type 2 diabetes, severe carotid and vertebrobasilar atheromatosis, ischemic coronary disease, stage III essential high blood pressure, chronic atrial fibrillation, operated type III aortic-iliac occlusive disease, stage IV right lower

limb chronic ischemia Fontaine (with ulceration at the level of the calf contaminated with *Proteus*, which required the surgical excision of the necrotic area, fasciectomy, and defect covering by freely detached skin), otitis media, right eye cataract, myopia, astigmatism, organic affective lability.

The physical examination upon admission revealed: excess represented by adipose connective tissue (class II hypercellular obesity), left facial paralysis, muscular system hypertonia, hypokinetic, pallor, ulceration at the level of the calf, which required the surgical excision of the necrotic area, fasciectomy, and defect covering by freely detached skin.

NMAK examination revealed: the patient was conscious, cooperative, temporally and spatially oriented, auto and allo-psychically oriented, no signs of meningeal irritation, cranial nerves: vertical nystagmus, left facial paresis, swallowing disorders, Babinski present bilaterally, motor deficit of the spastic hemiparesis type – left lower and upper limbs, left lower and upper limbs hypoesthesia. Muscular force: right upper limb 5/5 proximal, intermediate, distal; left upper limb 0/5 proximal, intermediate, distal; right lower limb 5/5 proximal, intermediate, distal; left lower limb 2/5 proximal, intermediate, distal.

From a functional point of view, the patient keeps resting in bed and not sitting at the edge of the bed. The patient was clinically and functionally assessed, according to the standardized protocols implemented in our clinic by means of the assessment grading scales: MMSE (Mini Mental Scale Examination), GOS-E (Glasgow Outcome Scale Extended) and Rankin, MoCA (Montreal Cognitive Assessment), FIM (Functional Independence Measure), FAC, QoL-Quality of Life, Asworth and Penn.

The patient was para-clinically 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 laboratory investigations revealed: biological inflammatory syndrome, normochromic normocytic anemia and normal left calf X-ray.

During the hospital stay, the patient underwent a complex recovery program which included: treatment with medication (neurotrophic, muscle relaxing drugs, peripheral vasodilatation drugs, anticoagulants, antiarrhythmic drugs class Ic, statin drug, insulin, anxiolytic, beta-blockers, digital glycoside, loop diuretic, potassium-sparing diuretic) and physical treatment (kinesiotherapy).

Results: After a complex neurorecovery program undertaken by a multidisciplinary team formed by doctors, kinesiotherapists, medium healthcare and paramedical personnel, the patient displayed a slowly favorable evolution (hardened by his multiple associated diseases due to the above-mentioned comorbidities) from a functional point of view with the improvement of the walking program and the increase of muscle force and self-autonomy. Given the complexity of the case, a multidisciplinary team was required, consisting in a medical rehabilitation doctor, a cardiologist, a diabetologist, an imaging physician, a plastic surgeon and an infectious disease physician.

Conclusions: In recent years, the incidence of cardio-embolic stroke has decreased due to prophylaxis, imaging and therapeutic progress.

The recovery of patients with cardio-embolic stroke is a complex process, which requires taking into account all associated pathologies that can play a decisive role in the evolution of the patient.

A multidisciplinary team is required for such purposes.

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