# RECOVERY EFFICIENCY IN PATIENTS WITH SEQUELAE AFTER STROKE IN THE "SF. NICOLAE" RECOVERY CLINIC FROM ATHENS, GREECE

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*Keywords:* arterial hypertension (HTA), recovery, reinsertion Abstract: Hemorrhagic and ischemic stroke patients, hospitalized for recovery in the Recovery Clinic "Sf. Nicolae" from Athens, Greece, selected from the cases recorded in the last two decades, aged between 50 and 80 years old, and status: employee (employer) or retired, experienced motor and psychological sequelae of different types and severity. Among the motor sequelae, we mention: paresis (mono, hemi, tetra), hemiplegia, quadriplegia, and neuropsychiatric pathology was represented by: severe depression, senile dementia and epilepsy. Hemorrhagic stroke and ischemic stroke are compared in relation to recovery and family, social and even professional reinsertion.

*Cuvinte cheie:* HTA, AVC, recuperare, reinserție

TA, Rezumat: Pacienții cu AVC hemoragic şi ischemic, internați pentru recuperare în clinica de recuperare "Șfântul Nicolae" din Atena, Grecia, selecționați din cazurile înregistrate în ultimele două decenii, având vârsta cuprinsă între 50 şi 80 de ani, iar statutul de: angajat (angajator) sau pensionar, au prezentat sechele motorii şi psihice de diferite tipuri şi gravitate. Dintre sechelele motorii menționăm: pareză (mono, hemi, tetra), hemiplegie, tetraplegie, iar patologia neuropsihică a fost reprezentată de: depresie gravă, demență senilă şi epilepsie. Se compară AVC hemoragic şi ischemic în raport cu recuperarea şi reinserția familială, socială şi chiar profesională.

## INTRODUCTION

Bardac D. (1) shows that, in the sixth decade of life, atherosclerosis often makes its presence felt, predominating in aorta and coronary, cerebral, mesenteric, renal vessels and limbs. Bardac D. (1) also shows that in the case of hypertensive elderly patients, elevated systolic blood pressure (by decreasing elasticity) even if diastolic pressure is normal or low, can cause stroke. At this, atrial fibrillation and diabetes also contribute. World Health Organization (WHO) (cited by Elena-Ana Păuncu) (2) in 1985, states that the disease, in which the risk factors arising from the work activity plays a causal part, are work-related diseases. Hypertension, as a work-related disease, has as professional causative factors: the noise, vibration, temperature and increased caloric radiation, increased mental strain, physical exercise etc. One explanation lies in the discharge of catecholamines.(4) Elena-Ana Păuncu (2) cites in the study of occupational morbidity in Romania, developed by the National Institute of Public Health, with reference to the year 2006, the number of workers exposed to various toxins such as: noise - 363.798 exposed warm microclimate - 129 893 workers exposed neurostrain - 170.057 workers exposed. There are other key risk factors that affect health in Europe: tobacco, alcohol, hypertension, high cholesterol, overweight, low fruit and vegetable intake, physical inactivity representing 60% of the DALYs (disability-adjusted life year).(2) Similarly, according to the 2005 WHO report on health in Europe, the main seven diseases are ischemic heart disease, unipolar depressive disorders, cerebrovascular diseases, imbalances associated with alcohol consumption, chronic pulmonary disease, lung cancer and injuries caused by road accidents representing 34% of DALYs.(2) If stroke represents approximately 85-90% of all cases, hemorrhagic stroke comprises about 10-15%.(3)

Among the different types and gravidity regarding the motor and mental sequelae, we mention: a) motor sequelae: paresis (mono, hemi, tetra), hemiplegia, quadriplegia, b) neuropsychical pathology represented by: severe depression, senile dementia and epilepsy. Cocârlă A. (4) illustrates the criteria for staging hypertension according to WHO, as follows:

- a) Optimal category: PAS<120, PAD<80;
- b) Normal category: PAS<130, PAD<85;
- c) Limit of the normal: PAS:130-139, PAD:85-89;
- d) Mild hypertension (I degree): PAS:140-159, PAD:90-99;
- e) Moderate hypertension (II degree): PAS:160-179, PAD:100-109;
- f) Severe hypertension (III degree): PAS>=180, PAD>=110;

## PURPOSE

Our study has two objectives: the first is the estimation of recovery, usually the partial recovery of sequelae after acute ischemic and hemorrhagic stroke compared, at different time intervals and the second follows if the family, social and professional integration has been achieved or has not.

## Working hypothesis

We started from the premise that subjects (employees, employers, pensioners) with sequelae after a hemorrhagic stroke after recovering less in a time longer compared to subjects with ischemic stroke. For this reason, family, social and eventually the professional reintegration is limited.

#### METHODS

The study material consists of 36 subjects with hemorrhagic stroke and 40 subjects with ischemic stroke, selected among the patients admitted to the "Saint Nicholas"

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recovery clinic from Athens, Greece, in the last two decades, with the view to recovery and reintegrate into family, society and workplace.

- The working methodology consisted in:
- a) clinical examination of the motor and neuropsychical functions, performed 6 months after the occurrence of sequelae as a result of the hemorrhagic stroke (researched group) and ischemic stroke (control group) with gradual appreciation of the recovery efficiency:
- b) family, social, professional reinsertion upon hospitalization.

#### RESULTS

In the case of ischemic stroke, in 22.5% (9 cases) recovery was achieved in less than 6 months, in 42.5% (17 cases) recovery was achieved in an time interval of up to 1 year, in 27.5% (11 cases), the patients recovered after one year and in 7.5% (3 cases) the patients are still recovering. The recovery period differs significantly (p = 0.001 < 0.05) in the case of a haemorrhagic stroke (as compared to an ischemic stroke), where there are no patients who recovered in less than six months, in 66.7% of patients (24 patients), the recovery was made up to 1 year, in 8.3% of cases (3 patients), the recovery was achieved after one year (but they still participate in a rehabilitation programme, few hours per week) and in 25% (9 cases), the recovery is still in progress (figure no. 1 a). Regarding the percentage of recovery (figure no. 1 b), it was about 80% in the case in which the recovery period was less than 6 months (only in the case of ischemic stroke), over 70% in the case in which the period the recovery was between 6 months to 1 year, and if the recovery time was more than 1 year, the recovery rate is very low, about 50%.





From the point of view of their family or social integration, this was achieved as follows: if the recovery period was less than 6 months (just in case of ischemic stroke) 77.8% (7 patients) were integrated in their family and only 55.6% (5

cases) were socially integrated, in the case the recovery period was between 6 months and 1 year, more than 70% were family integrated (77% in the case of an ischemic stroke and 73% in case of hemorrhagic stroke) and only 40% were socially integrated (47% in the case of ischemic stroke and 37% in case of hemorrhagic stroke), if the recovery time was more than 1 year, family integration has occurred only in a small number of cases and only in the case of an ischemic stroke (9.1%), while social integration has never been achieved in any of the cases.

The professional integration could be possible in 11% of cases, when the recovery period was less than 6 months; in 29% in case of an ischemic stroke and 17.6% in case of a hemorrhagic stroke, when the recovery period was from 6 months to 1 year, and in none of the cases when the recovery period was over 1 year.

Figure no. 2. Correlation between the recovery period of time and the recovery percentage



In the case of a hemorrhagic stroke, a positive, significant correlation has been obtained, (r = 0.398, p = 0.016 < 0.05), between the time of recovery and the recovery rate, which indicates that in the situation in which the recovery time was larger, a good recovery percentage was obtained. In the case of an ischemic stroke, as against the hemorrhagic stroke, there has been obtained a negative correlation, but not significant, (r = -0.154, p = 0.343 > 0.05), indicating that a better recovery rate can be obtained in the first months of recovery (figure no. 2)

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