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## STUDENTS CREATIVE ACTIVITY

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### OCCURRENCE OF DEPRESSION SYMPTOMS IN PERIPHERAL ARTERIAL OCCLUSIVE DISEASE (Short communications)

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#### Summary

**Aims.** The study has two main aims: 1. It evaluates the occurrence of depression symptoms in patients with peripheral arterial occlusive disease (PAOD). 2. It evaluates the effects of age and Fontaine stage of PAOD on the gravity of depression symptoms in patients with PAOD. **Material and Methods.** The study is prospective and cross-sectional. It was carried out at the 2<sup>nd</sup> Department of Internal Medicine of University Hospital and Charles University in Prague, Faculty of Medicine in Hradec Králové (2<sup>nd</sup> DIM). The dates were obtained during the year 2006. The total number of respondents with PAOD was 42 (28 male, 14 female). The average age of all respondents with PAOD was 65.4 years (age range 45–79 years). The evaluation of the occurrence of depression symptoms in patients with PAOD was performed by means of the self-assessment Zung-SDS. The statistical analysis was determined by means of a variance analysis. **Results.** The mean SDS index certifies the presence of signs of a minimum or light depression in patients with PAOD. We proved the statistically significant dependence of depression in patients with PAOD on age ( $p < 0.01$ ) and on Fontaine stage of PAOD ( $p < 0.01$ ). **Conclusion.** The results have shown the existence of association between PAOD and depression symptoms.

**Key words:** Depression; Peripheral arterial occlusive disease; Quality of life.

#### Introduction

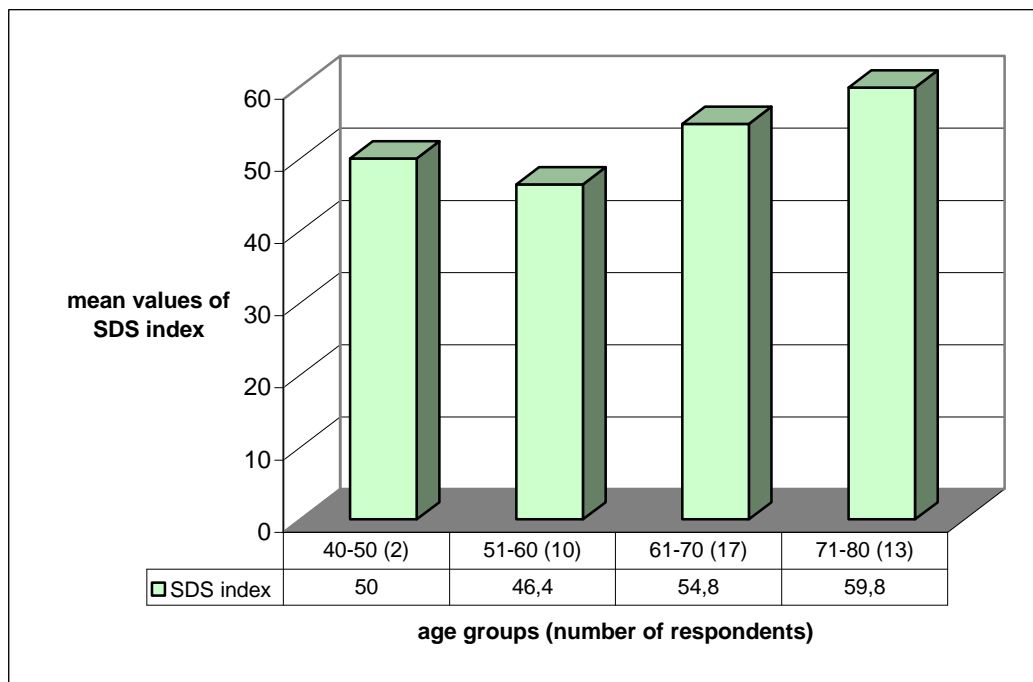
Peripheral arterial occlusive disease (PAOD) is a prevalent atherosclerotic disorder characterized by exertional limb pain, loss of limb, and a high mortality rate. In Czech adult population is prevalence of PAOD low than 2 % in men younger than 50 years and in Czech women this values occur 10 years later (1). Intermittent claudication is the most common symptom in patients with PAOD (2). Risk factors for the development of peripheral atherosclerosis are the same as for coronary and cerebrovascular atherosclerosis namely diabetes mellitus, hyperlipidaemia, arterial hypertension, and smoking (1–4). PAOD is classified in accordance with Fontaine classification on stages which they are characterized (1):

stage I – asymptomatic, stage IIa – intermittent claudication, pain-free walking distance > 200 m, IIb – intermittent claudication, pain-free walking distance < 200 m, stage IIIb – intermittent claudication, pain-free walking distance < 50 m, III – rest pain,

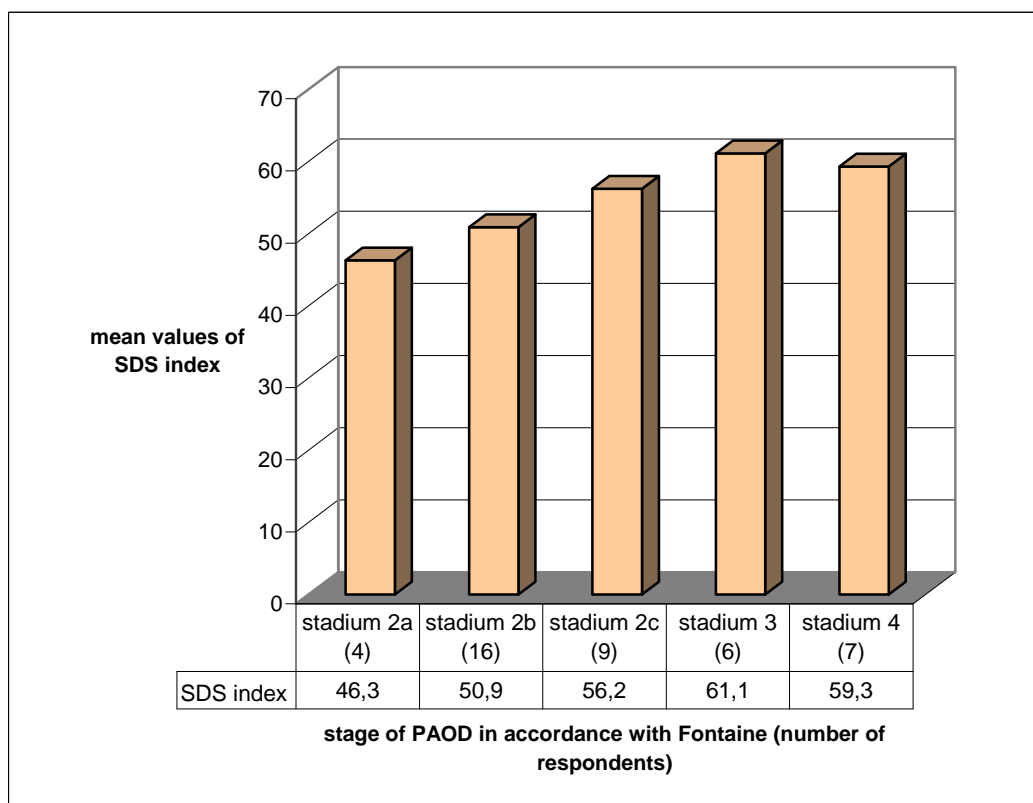
IV – ischaemic lesion (ulcer, gangrene, necrosis) (1). The treatment of PAOD is aimed not only at the disease itself, but also at the factors that cause or aggravate atherosclerotic process. The treatment should be complex, long term and oriented at optimal revascularization, elimination of rest pain and prolongation of claudication interval. It should be supportive of healing ischemic defects and must include prevention of atherosclerosis and thrombosis. There are two revascularization interventions:

1. endovascular revascularization – percutaneous transluminal angioplasty (PTA): balloon or stent,
2. angioplasty – reconstruction surgery (1).

PAOD as a chronic disease is associated with physical, psychological and social distress for elderly patients and their families (3). People with PAOD have significant disability that also affects psychosocial and emotional aspects of their quality of life (QoL) (4). QoL term contains the information on an individual's physical, psychological, social and spiritual condition. QOL evaluation is carried out by means of generic and specific questionnaires (5).



**Graph I:** Comparison of mean values of SDS index in dependence on age groups ( $n = 42$ ,  $p < 0.01$ ).



**Graph II:** Comparison of mean values of SDS index in dependence on stage of PAOD in accordance with Fontaine classification ( $n = 42$ ,  $p < 0.01$ ).

Comments to Graph II:

Stadium 2a = **stage IIa** ( $> 200$  m), stadium 2b = **stage IIb** ( $< 200$  m), stadium 2c = **stage IIb** ( $< 50$  m), stadium 3 = **stage III**, stadium 4 = **stage IV** in accordance with Fontaine classification.

## Patients and Methods

A prospective study was conducted at 2<sup>nd</sup> DMI in respondents with PAOD which they were admitted for hospitalization for femoral and popliteal artery balloon angioplasty during year 2006 (January 1<sup>st</sup> 2006 – June 1<sup>st</sup> 2006). The all respondents had involvement of femoral and popliteal arterial circulation and they never had revascularization operation (surgical and endovascular intervention) on peripheral arterial circulation or sympatotomy and limb amputation.

The study evaluated occurrence of depression symptoms in patients with PAOD and effect of age and Fontaine stage of PAOD on gravity of depression symptoms in patients with PAOD. The evaluation of occurrence of depression symptoms in patients with PAOD was performed by means of self-assessment Zung-SDS (6). Statistical analysis was determined by means of analysis of variance. The value  $P < 0,05$  was considered significant.

## Results of study

The total number of respondents with PAOD was 42 (28 male, 14 female). The all respondents had involvement of femoral and popliteal arterial circulation. The number of all respondents in accordance with Fontaine was following: intermittent claudication: stage IIa – 4, stage IIb (< 200 m) – 16, stage IIb (< 50 m) – 9, chronic limb ischaemia: stage III – 6, stage IV – 7 respondents. The average age of all respondents was 65,4 years old (age range 45–79 years old). The number of respondents with diabetes mellitus was 26, with arterial hypertension was 34, with hyperlipidaemia was 28. The number of liparous respondents with PAOD was 23 and the number of smokers was 30. The number of respondents with coronary artery disease was 10 and the number of respondents with cerebrovascular manifestations of atherothrombosis was 6. The coronary artery disease at the same time with cerebrovascular manifestations of atherothrombosis had 4 respondents. The all respondents never had revascularization operation (surgical and endovascular intervention) on peripheral arterial circulation or sympatotomy and limb amputation.

The statistical evaluation present that mean SDS index (index of depression) certifies the presence of signs of minimum or light depression in patients

with PAOD. The mean SDS index (index of depression) in all respondents with PAOD was 54,1. We proved statistically significant dependence of depression in patients with PAOD on age ( $p < 0,01$ ) (Graph I) and on Fontaine stage of PAOD ( $p < 0,01$ ) (Graph II). The occurrence of depression symptoms is a higher with increasing age of respondents with PAOD and worse stage of PAOD in accordance with Fontaine. The mean SDS index in all men with PAOD was 52,8. The mean SDS index in all women with PAOD was 56,9.

## Discussion and Conclusion

The relationship between psychopathology and cardiovascular diseases is proved for type of personality and emotional reactivity (7). The global dates for problem of psychopathology in patients with PAOD are missing. As far as we are informed, partial findings of our study present the existence of the association between PAOD and depression symptoms. We think that our results correspond to that PAOD is a chronic disorder characterized by exertional limb pain, loss of limb, and a high mortality rate and because of its chronic nature, it often has a negative impact on patients. PAOD as a chronic disease is associated with physical, psychological and social distress for elderly patients and their families. People with PAOD have significant disability that also affects psychosocial and emotional aspects of their quality of life.

Our findings are contribution for angiologists and general practitioners because this physicians must think and also diagnose of depression symptoms in this cohort of patients. They are must know treat depression or this antidepressive treatment secure by clinical psychologist or psychiatrist.

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