

MEETING ABSTRACT

Open Access

Low serum thyrotropin concentrations as a risk factor for atrial fibrillation in elderly patients

A Grembiale^{1*}, E Succurro¹, M Lugarà¹, F Iorio¹, V Caruso¹, S Cufone¹, E Pedace¹, S Mastroianni¹, M Ruffo¹, C Cloro², G Costante¹, F Arturi¹

From de Senectute: Age and Health Forum
Catanzaro, Italy. 5-7 December 2009

Background

Atrial fibrillation (AF) represents a well-known complication of hyperthyroidism. Whether patients with subclinical hyperthyroidism have an increased risk of AF is still controversial.

Materials and methods

In our study, we evaluated TSH levels and several cardiologic parameters in 75 elderly patients with AF in the persistent (n=34) or paroxysmal (n=41) form. None of the patients showed the presence of other known risk factors for AF or increased levels of thyroid hormone concentration.

Results

Serum TSH values were <0.5 fIU/ml in 24 (32%, Group A), between 0.5 and 1 fIU/ml in 22 (29.3%, Group B) and above 1 fIU/ml in 29 (38.7%, Group C) patients. No significant difference was observed among the 3 groups for echocardiographic parameters. Holter registration showed: Heart Rate [HR (24 hours)] of 67.7 + 10.8 b/m in the group A, 71.8 + 8.9 b/m in the group B and 70.5 + 18 b/m in the group C; HR (Max) of 134.6 + 35.2 b/m in the group A, 124 + 22.8 b/m in the group B and 119.6 + 40.8 b/m in the group C; HR (Min) of 43.8 + 8.3 in the group A, 43.7 + 11 b/m in the group B and 45.8 + 14.6 b/m in the group C; Diurnal HR of 71 + 10 b/m in the group A, 75.3 + 8.9 b/m in the group B and 69.7 + 12 in the group C and Nocturnal HR of 68 + 11 b/m in the group A, 65.6 + 8.4 b/m in group B and 61.4 + 9.5 b/m in the group C. Persistent AF was observed in 17/24 (70.8%) patients in the group A, in 8/22 (36.4%) patients in the group B and in 9/29 (31.0%) patients in the group C.

Conclusions

In conclusion, the 24 h, the Maximal and the Minimal HR did not significantly differ among the 3 groups; the circadian HR variation was lost in group A patients, while it was present in the other groups; the frequency of persistent AF was significantly increased in group with serum TSH values <0.5 µU/ml.

Author details

¹Dipartimento di Medicina Sperimentale e Clinica, Università degli Studi "Magna Graecia" di Catanzaro, Italy. ²Unità Operativa di Cardiologia, Ospedale Civile "SS Annunziata" di Cosenza, Italy.

Published: 19 May 2010

doi:10.1186/1471-2318-10-S1-A83

Cite this article as: Grembiale et al.: Low serum thyrotropin concentrations as a risk factor for atrial fibrillation in elderly patients. *BMC Geriatrics* 2010 **10**(Suppl 1):A83.

Submit your next manuscript to BioMed Central and take full advantage of:

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at
www.biomedcentral.com/submit

BioMed Central

¹Dipartimento di Medicina Sperimentale e Clinica, Università degli Studi "Magna Graecia" di Catanzaro, Italy