P-146

# Comparison of Serum Netrin-1, Nesfatin-1 and Adropin Levels in Subclinical and Overt Hypothyroidism

Gülhan Akbaba, Emine Koca*, Neşe Çınar, Tuba Edgünlü**, Kürşad Tosun***

Muğla Sıtkı Koçman University Faculty of Medicine, Department of Internal Medicine, Department of Endocrinology and Metabolism Diseases, Muğla, Turkey
*Muğla Sıtkı Koçman University Faculty of Medicine, Department of Internal Medicine, Muğla, Turkey
**Muğla Sıtkı Koçman University Faculty of Medicine, Department of Medical Biology, Muğla, Turkey
***Muğla Sıtkı Koçman University Faculty of Medicine, Department of Biostatistics, Muğla, Turkey

## Abstract

**Introduction:** Overt and subclinical hypothyroidism (OH. SH) are diseases characterized by the activation of inflammatory pathways. In particular, OH is associated with increased mortality and morbidity. Netrin-1, nesfatin-1 and adropin are linked to numerous physiological processes. but their effects of hypothyroidism are not clear. In our study. we aimed to investigate serum levels of these three molecules in OH and SH and their relations with the disease.

**Method:** This monocentric cross-sectional study was conducted prospectively between August 2016 and October 2017 in patients who applied to the Endocrinology Clinic of Mugla Sitki Kocman University. Patients were divided into three groups, namely, OH, SH and control (C).

**Results:** A total of 83 people were included in the study. 27 of them with OH. 29 with SH. and 27 in C. Adropin levels in the group OH and SH were lower than those in group C (150.0. 156.3. 180.4. p=0.085. p=0.230. respectively) while nesfatin-1 levels were higher (14.2. 14.8. 10.9. p=0.168. p=0.191. respectively). but the differences were not statistically significant. Netrin-1 levels were lower in group OH and SH than in group C. and only the difference between SH and C groups was statistically significant (379.5. 361.7. 417.3. p=0.129. p=0.011. respectively).

**Conclusion:** In our study, netrin-1 levels were lower in groups OH and SH than in group C. and only the difference between SH and C groups was statistically significant (p=0.011). We also found higher levels of nesfatin-1 and adropin levels in group OH and SH than group C. but the differences were not statistically significant. Previous studies have shown that circulating netrin-1 suppresses inflammation; more recent studies emphasize its proinflammatory function in the tissue. Low circulating levels of netrin-1 observed in hypothyroidism which is characterized by antiinflammatory properties. are compatible with the literature and may be a cause of increased inflammation in SH. Comprehensive studies with these molecules may play a role in elucidating inflammatory processes in patients with OH and SH.

Table 1. Comparison of anthropometric measurements and blood parameters in OH. SH and C groups.

| | | OH | SH | C | C vs OH p values | C vs SH p values | OH vs SH p values |
|---|---|---|---|---|---|---|---|
| Netrin-1 (pg/ml) | median | 379.5 | 361.7 | 417.3 | 0.129 | 0.011 | 0.484 |
| | min-max | 251.6-1138.3 | 248.9-1889.0 | 272.1-808.7 | | | |
| Nesfatin-1 (ng/ml) | median | 14.2 | 14.8 | 10.9 | 0.168 | 0.191 | 0.897 |
| | min-max | 4.1-54.0 | 4.0-52.7 | 4.2-53.6 | | | |
| Adropin (ng/L) | median | 150.0 | 156.3 | 180.4 | 0.085 | 0.230 | 0.588 |
| | min-max | 11.7-472.7 | 18.7-349.4 | 45.5-374.4 | | | |

DOI: 10.25179/tjem.20182202-P146