Evaluation of Thyroid Function Tests of Patients Before and After the Covid-19 Pandemic in Terms of Development Autoimmune Thyroiditis

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COVID-19

- Enveloped, non-segmented, single-stranded RNA virus
- Acute respiratory syndrome
- Mostly asymptomatic or mild flu-like symptoms
- Multiorgan dysfunction due to sepsis and cytokine storm
- Transmission through droplets
- A pandemic with global consequences

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THYROID

Located in the anterior part of the trachea → Weights approximately 30 gram

TSH hormone reaches the thyroid through the blood → Regulates metabolism by secreting T3 and T4

Depending on whether the thyroid secretes too much or too little hormone, other organs work faster or slower. → Many different systemic disorders, many different health problems and related symptoms are observed.

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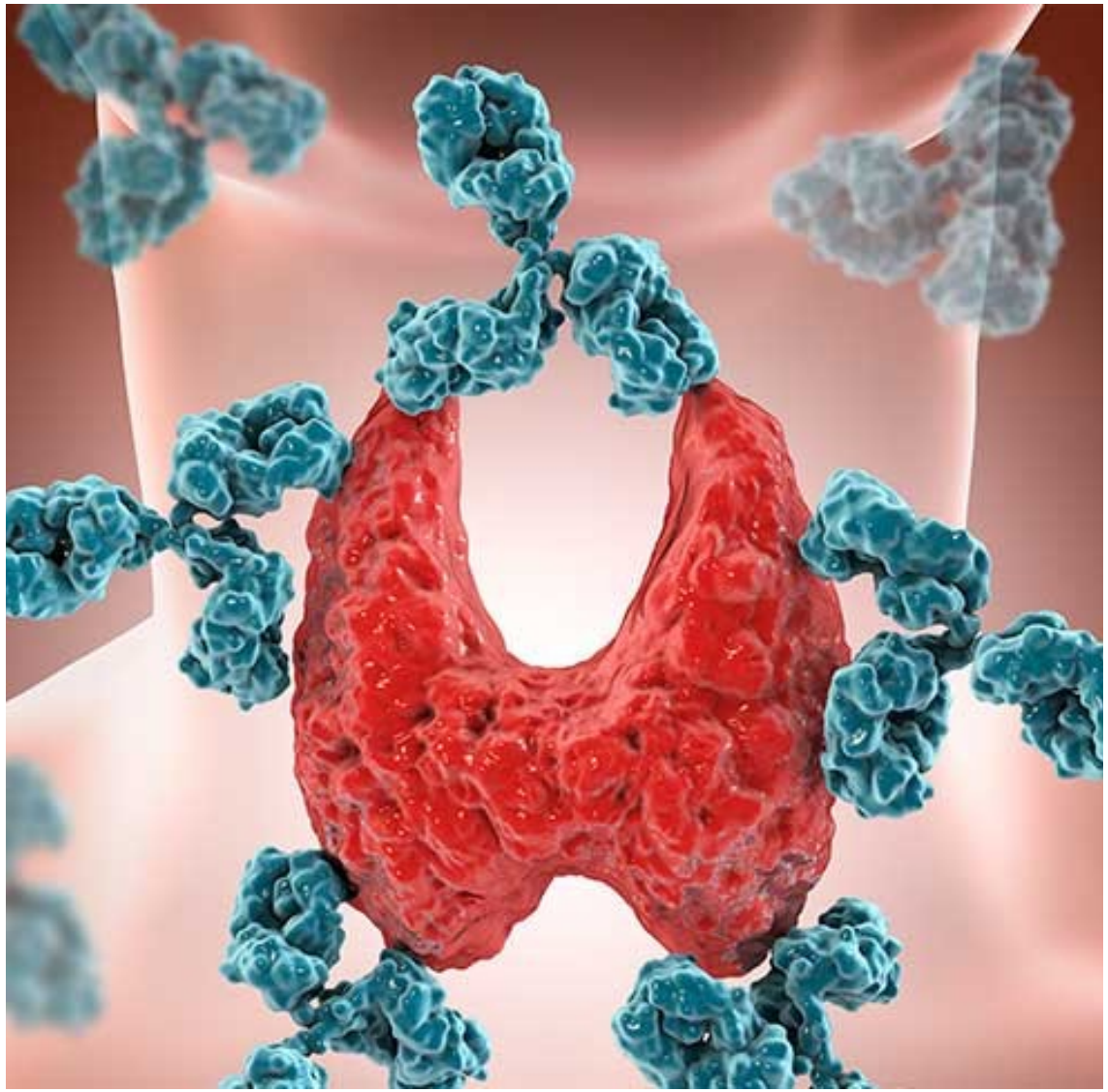

AUTOIMMUNE

COVID-19 shares similarities with autoimmune diseases in clinical manifestations, immune responses, and pathogenic mechanisms.

Although strong immune reactions participate in the pathogenesis of both disease states, autoantibodies, a hallmark of diseases, are also detected in COVID-19 patients. autoimmune

Hashimoto thyroiditis, Guillain-Barre syndrome systemic lupus erythematosus, autoimmune hepatitis are autoimmune diseases that can be seen after Covid.

COVID-19 can cause autoimmune thyroid disease in susceptible individuals.

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AIM

- Covid can promote autoimmunity. We aimed to determine the relationship between COVID-19 infection and thyroid autoimmunity markers to investigate whether there was a significant change before or after the virus.

MATERIAL & METHODS

- 01/03/2017-01/03/2023
- Age
  Gender
- analysis of free t4, TSH, antiTPO, antiTG values
- 788 people

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MATERIAL & METHODS

- In our retrospectively planned study, patients who applied to Bezmialem Vakif University between March 2017 and March 2023 and were tested for AntiTPO, AntiTg and TSI for the development of autoimmune thyroiditis were determined as the sample group. Sociodemographic characteristics of the patients, such as age group, gender, and T3, T4, TSH AntiTPO, AntiTG, TSI laboratory findings were included in the study.

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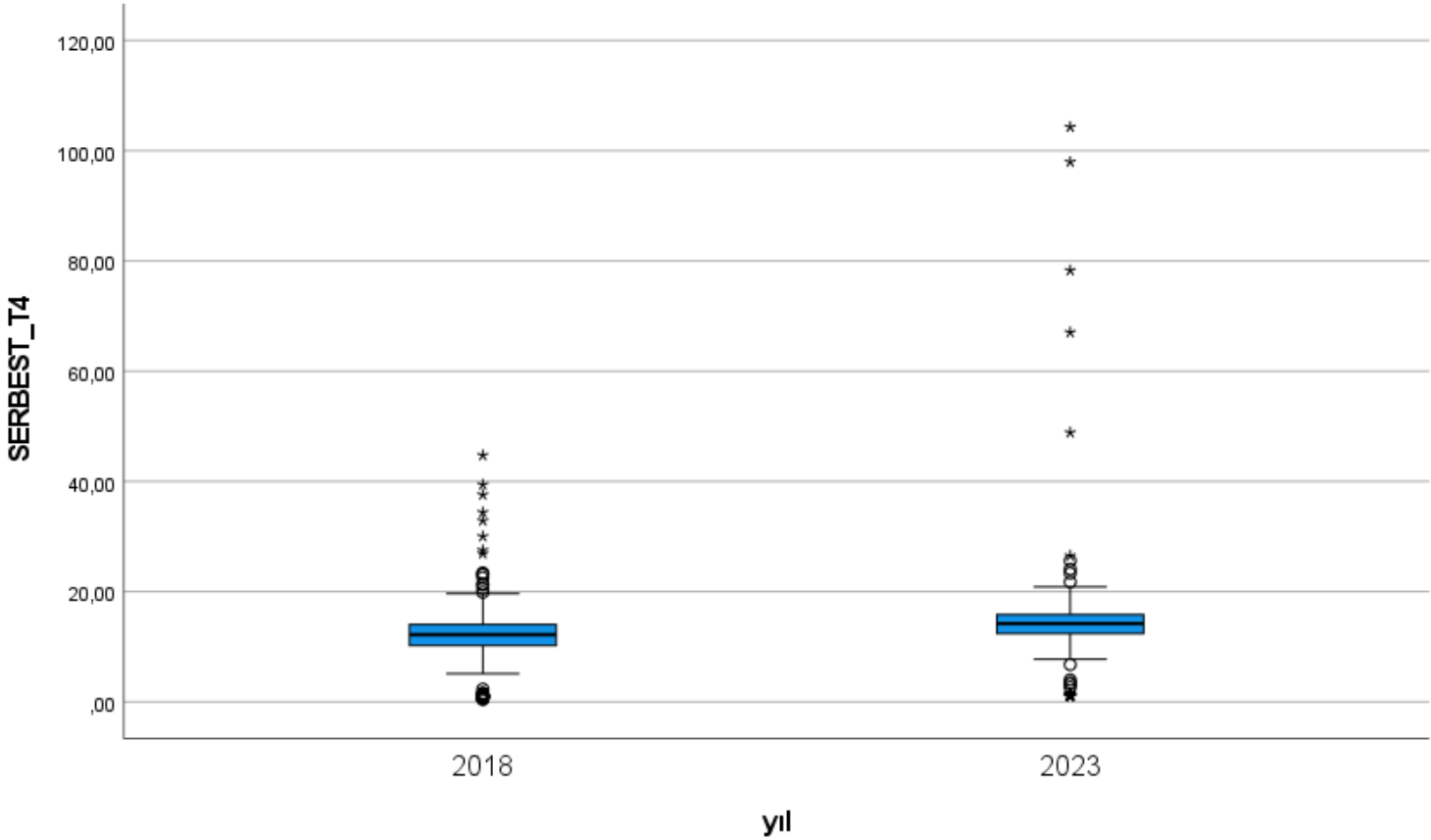
RESULTS

788 people were examined. In 2023, the average age of patients was found to be significantly lower compared to 2018 (p = 0.010).

No significant difference was observed in terms of gender distribution of patients between 2023 and 2018 (p = 0.936).

The average free T4 of patients in 2023 was found to be significantly higher than in 2018. (p<0.001).

In terms of TSH averages, no significant difference was observed between 2023 and 2018 (p = 0.470).



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Conclusion and Future Directions

- Available data suggest that COVID-19 predisposes to autoimmune thyroid disease due to a decreasing age of disease onset. During this period, the rate of autoimmune thyroiditis cases was found to be approximately 5 times higher based on the total number of hospital admissions. Further studies are needed to elucidate the pathways that may clarify the relationship between SARS-COV-2 and thyroid autoimmunity.

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Thank you for listening