

Thyroid Profile in Acute Lymphoblastic Leukemia: Prognostic Role of Thyrotropin-Releasing Hormone.

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INTRODUCTION

THYROID DYSFUNCTION IS SEEN IN CHILDHOOD ALL. STUDIES SHOWED AFFECTION OF UP TO 18% OF ALL PATIENTS. HOWEVER, FEW STUDIES ASSESSED THIS IN ADULTS WITH ALL. MOREOVER, IT WAS REPORTED IN A RECENT STUDY THAT HYPOTHYROIDISM OCCURRED IN THE INDUCTION PHASE.

AIM

to assess the thyroid profile in adult ALL and find out the relationship between thyrotropin-releasing hormone (TRH) level and the clinical outcome of the patients.

METHOD

Prospective observational research was conducted from January to June 2024. This study included 44 newly diagnosed ALL patients. Each patient underwent a thyroid profile including T3, T4, thyroid-stimulating hormone (TSH), and TRH. They were evaluated both at the time of diagnosis and after induction chemotherapy. Spell check and get someone else to proof-read.

CONCLUSIONS

Thyroid hormonal profile is initially affected in some patients with adult ALL. Euthyroid status is most encountered with initial assessment. Abnormalities included ESS, hypothyroidism and hyperthyroidism. Significant improvement in the thyroid profile after the induction phase ensures the role of disease rather than therapy itself. Initial TRH and TSH have a negative prognostic impact on ALL outcomes. Moreover, the euthyroid status and ESS were associated with the best survival of ALL. .

RESULTS

All initial T3, T4, TSH, and TRH were statistically significantly lower than post-chemotherapy results (with p value = 0.001, 0.007, 0.035, and < 0.00,1 respectively). Initial TSH showed a statistically significant negative correlation with disease-free survival (with r = -0.33 and p = 0.027). Initial TRH showed a statistically significant negative correlation with overall survival and disease-free survival (with r = -0.30 and -0.30 and p = 0.45 and 0.45, respectively). Multiple regression analysis showed that initial TSH was the most significant determining factor of disease-free survival (with = -0.34 and p = 0.029). On the other hand, multiple regression analysis showed that karyotyping was found to be the most significant determining factor of overall survival in multiple regression analysis (with = 0.46 and p = 0.049, respectively). The evaluation of disease-free survival using the Kaplan –Meier curve, based on the initial thyroid profile, indicated the most favourable outcomes in patients with a euthyroid state and euthyroid sick syndrome (ESS).

CONTACT INFORMATION

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