

P-254 - SHORT-TERM EFFECTS OF LITHIUM ON SERUM THYROID-STIMULATING HORMONE (TSH) LEVELS AND WBC COUNTS IN HOSPITALIZED PEDIATRIC POPULATION: A RETROSPECTIVE NATURALISTIC STUDY

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Objective: To assess the impact of lithium treatment alone or combined with other medications on TSH levels and WBC count in hospitalized bipolar and non-bipolar children, adolescents and young adults using data extracted from electronic medical records.

Method: The study investigated serum TSH and WBC count in lithium treated hospitalized youth, aged 12-24 years. The study included 122 BP (N=67) or non-BP (N= 55) disorder inpatients treated with lithium for mean duration of 173 days. TSH and WBC values were examined at baseline and at the end of the hospitalization. Subjects were divided into two groups for analysis: group 1 was treated with lithium as monotherapy and group 2 was treated with lithium combined with other psychotropic agents (polypharmacy).

Results: The mean end-point TSH levels were significantly higher (3.16 ± 2.68 vs 1.52 ± 0.92 mU/L, $P < 0.05$) after lithium treatment. Sixteen children of the 54 (29%) had TSH values above the upper normal value of 4 mU/L at the end-point. A positive correlation was found between pre- and post-treatment TSH levels (Pearson's correlation: $r = 0.568$, $P < 0.05$). A statistical significant difference was also found in mean WBC's count (7195.3 ± 2151.88 vs 7944.1 ± 2096.53 count/mm³ cells, $P < 0.05$). No differences were detected between the monotherapy and the polypharmacy groups.

Conclusions: Lithium treatment is associated with significant increase in thyrotropin levels and WBC counts in youth. Higher-baseline TSH level is associated with higher TSH levels in lithium-treated subjects. Close monitoring of thyroid functions in lithium treated children and adolescents is recommended.