

**Urinary Iodine Status among Autoimmune and Non-Autoimmune
Thyroid Disease patients in coastal Odisha**

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Objective: The aim of the present study was to assess the urinary iodine concentrations among the subjects of autoimmune and non-autoimmune thyroid patients.

Methods: The study was conducted in subjects with autoimmune thyroid disorder (AITD; n=95), subjects with non-autoimmune thyroid disorder (NAITD, n=31). The comparator group was age and sex matched healthy euthyroid volunteers (n=29) attending Endocrinology outpatient's department, AIIMS Bhubaneswar. Serum free thyroxine (FT4), thyroid peroxidase antibody (TPO Ab) and thyroid stimulating hormone (TSH) were estimated by chemiluminescent immunoassay (CLIA). The median urinary iodine concentration (UIC) in was estimated by ammonium persulfate digestion method recommended by the WHO.

Results: Median urinary iodine concentration was significantly lower in the AITD group compared to control ($42.68 \pm 20.06 \mu\text{g/L}$ vs. $57.55 \pm 20.66 \mu\text{g/L}$ respectively, $P < 0.001$). Comparing the values between AITD and NAITD ($23.16 \pm 20.16 \mu\text{g/L}$), there was significant difference in the urinary iodine concentrations. Between the NAITD and control groups, the median iodine concentration was significantly different ($P < 0.001$).

It was also observed that, 64% NAITD patients were severe iodine deficient as compared to 16% in the AITD group. Interestingly, none of the patients in all 3 groups was with optimal iodine levels.

According to iodine nutrition status, AITD subjects, 51 (53.68%) were significantly moderate iodine deficient compared to control, 10 (34.48%) $p=0.003$ and AITD group, 08 (25.80%) $p=0.01$. NAITD subjects, 20 (64.51%) was observed a statistically significant severely iodine deficit when compared with AITD, 15 (15.78%) $p=0.01$.

Conclusion: None of these three groups were in optimal iodine nutrition state as assessed by UIC. Subjects in the NAITD group were more iodine deficit than the AITD and control groups.