SERUM SELENOPROTEIN P LEVEL AND $T_3/T_4$ RATIO IN PATIENTS WITH HYPERTHYROIDISM
The critical step in thyroid hormone metabolism

- Selenium was found to be associated with thyroid function following after the identification of type 1 deiodinase as a selenocystiene containing enzyme

Conversion of T₄ to T₃ can be assessed by monitoring the T₃/ T₄ ratio in the blood
• Selenoprotein P is a unique member of the selenoprotein family.

• It contains ten selenocysteine (Sec) residues per polypeptide.

• Its main proposed role is the transport and delivery of selenium from liver to peripheral tissue.

Materials and Methods

- **29 hyperthyroid patients** who already diagnosed as hyperthyroidism by Department of Otorhinolaryngology, head and neck surgery and Department of Endocrinology.

- **56 control** were screened by measuring thyroid function test (T3/T4/TSH).

- Screened for diabetes mellitus to both group by measuring random blood sugar.

- Serum selenoprotein P, T3, T4 and TSH were measured by enzyme linked immunosorbent assay.
## RESULTS

<table>
<thead>
<tr>
<th>Biochemical profiles</th>
<th>Control (n=56)</th>
<th>Hyperthyroid patients (n= 29)</th>
<th>Level of Significant (t)</th>
<th>Level of significant (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum selenoprotein P level (ng/mL)</td>
<td>27.33±14.49</td>
<td>17.7±11.24</td>
<td>3.121</td>
<td>0.002</td>
</tr>
<tr>
<td>Serum T&lt;sub&gt;3&lt;/sub&gt; level (ng/mL)</td>
<td>1.10±0.24</td>
<td>4.22±2.83</td>
<td>5.934</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Serum T&lt;sub&gt;4&lt;/sub&gt; level (ng/mL)</td>
<td>82.2±9.14</td>
<td>207±112.18</td>
<td>5.991</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Serum T&lt;sub&gt;3&lt;/sub&gt;/T&lt;sub&gt;4&lt;/sub&gt; ratio</td>
<td>0.01±0.00</td>
<td>0.02±0.01</td>
<td>4.359</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Serum selenoprotein P level, serum T<sub>3</sub> level and serum T<sub>4</sub> level and T<sub>3</sub>/T<sub>4</sub> ratio of the study population
Correlation between serum selenoprotein P and Triiodothyronine level

Control Group

Hyperthyroid Patients

r=0.11

r=0.37
Correlation between serum selenoprotein P and Thyroxine level

Control Group

Hyperthyroid Patients
Correlation between serum selenoprotein P and $T_3/T_4$ Ratio

- Control Group
- Hyperthyroid Patients

$r=0.09$

$r=0.49$
REFERENCES


