Thyroglobulin and Thyroid Function in J

Dear Sir,

In a recent article, Sennesael et al. [1] reported an exhaustive study on different parameters of the thyroid function in regular hemodialysis treatment patients (RHD). In this paper, we report another parameter of the thyroid function, i.e. thyroglobulin and its response to bovine TSH in a group of RHD patients, that, to our knowledge, has not been investigated before.

Thyroglobulin is a high-molecular weight glycoprotein, synthesized and released into the blood by the thyroid under the influence of TSH; it therefore is a secretory product of the normal thyroid [2, 3], and is cleared preferentially in the liver [2]. In the thyroid it works as a prohormone of thyroxine (T₄) and triiodothyronine (T₃) that are cleaved from it.

Fasting blood was obtained from 50 normal subjects (26 males, 24 females; age 45 ± 10 years), and from 21 RHD patients (12 males, 9 females; age 52 ± 8 years), just before and after HD. In 10 normal subjects and 12 RHD patients, we also measured thyroglobulin 24 h after an injection of 10 U bovine TSH (Ambinon, Organon). In all patients and normal subjects, the presence of previous thyroid pathology, goiter and circulating antithyroglobulin antibodies (Thymune T, Welcome Diagnostics) was excluded. Thyroglobulin was measured by double antibody RIA, using a kit furnished by Nuclear Medical Systems [4]. For statistical analysis we used Mann-Whitney’s U test.

Results are shown in table I. In summary, we found normal levels of thyroglobulin in RHD patients both before and after HD, with normal response to TSH stimulation. This suggests that thyroglobulin is not dialysed and is normally released by the thyroid in RHD patients. This finding is in agreement with the report of Sennesael et al. [1] and suggests that the abnormalities in total T₄ and T₃ of uremic patients are due to alterations in thyroid-hormone-binding proteins and/or 5'-deiodination, but not to a genuine thyroid dysfunction.

References


After TSH stimulation after HD

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<tr>
<th>Group</th>
<th>Value</th>
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<tbody>
<tr>
<td>Normal subjects</td>
<td>26.5 ± 9.8</td>
<td>50</td>
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<tr>
<td>RHD patients</td>
<td>20.9 ± 5.9</td>
<td>21</td>
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