A 3-year-old male, with no relevant medical history, was referred to pediatric endocrinology due to a thyroid nodule that was discovered during a cervical adenopathy ultrasound. The initial ultrasound revealed a homogeneous thyroid parenchyma, with an 8 mm hypoechogenic nodular formation, with some internal millimeter echogenic foci on the right lobe of the thyroid gland. The thyroid levels were normal, and a physical examination showed a normal sized thyroid with no nodules. After three months, the patient was submitted to an ultrasound revaluation revealing an increase in the dimensions of the nodule (12 mm) and, therefore, a biopsy was suggested. After reevaluating the ultrasounds, and taking into consideration the age of the patient, the possibility of an intrathyroidal thymus was considered. A new ultrasound showed an extension of the lower part of the lesion that seemed to continue with the thymus, presenting ultrasound characteristics similar to the thymus (Figs. 1 and 2). With the diagnosis of an intrathyroidal thymus, the biopsy was dismissed, and the patient remains under clinical and ultrasound monitoring.

The intrathyroidal ectopic thymus is a rare entity due to defect thymic migration during embryogenesis, which is usually benign and asymptomatic, and is often an incidental finding.\(^1\,^3\)

The presence of normal thymus intrathyroidal tissue may simulate a false nodule,\(^2\) wrongly diagnosed as pathological, leading to unnecessary invasive procedures or surgical treatments.\(^2\,^5\) The majority of the diagnoses described in the literature were established after an inconclusive biopsy followed by thyroidectomy.\(^3\,^4\) The thymus tissue has a characteristic ultrasound pattern that enables you to recognize it and differentiate it from other thyroid lesions (Table 1).\(^1\,^2\,^6\) Long-term monitoring has revealed a decrease in the size, which meets the regular thymus involution.\(^2\,^3\) However, ultrasound monitoring should be maintained in order to consider further investigation in case of a significant increase and size and the rare possibility of malignant degeneration.

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**Table 1. Ultrasound characteristics of the thymic tissue and thyroid nodule**

<table>
<thead>
<tr>
<th>Type</th>
<th>Ultrasound characteristics</th>
<th>Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thymus</td>
<td>Heterogeneous and hypoechogenic compared to thyroid tissue.</td>
<td>Scarce or absent</td>
</tr>
<tr>
<td></td>
<td>It may have multiple linear and focal echogenic structures, corresponding to a micro septa or points, with an appearance like a “starry sky”. Defined limits.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Thymus shape may vary with respiratory movements during ultrasound, facilitating differential diagnosis with other solid nodules.</td>
<td></td>
</tr>
<tr>
<td>Thyroid nodule</td>
<td>Solid, cystic or mixed. Hypoechogenic with micro or macrocalcifications. Defined or undefined limits.</td>
<td>Present</td>
</tr>
</tbody>
</table>
**Keywords:** Child, Preschool; Thymus Gland/abnormalities; Thyroid Nodule/etiology; Thyroid Nodule/imaging diagnosis; Ultrasonography

**WHAT THIS REPORT ADDS**
- The embryogenesis of the thymus might fail and end up in an ectopic position that can mimic a thyroid nodule.
- The intrathyroidal ectopic thymus has a low prevalence, but its ultrasound characteristics should be known in order to be considered in the diagnosis of thyroid nodules in pre-pubescent ages and, therefore, avoiding unnecessary invasive procedures or an unnecessary extraction of the gland.
- Unlike most described cases, the diagnosis was established resorting to ultrasounds, for which an experienced radiologist and diagnostic acuity are essential.

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**Confidentiality of data**
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**References**