

## A Case of Acquired Leucoderma, Associated with Hashimoto's Thyroiditis

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### ABSTRACT

A 67-year-old female diagnosed as Hashimoto's thyroiditis in company with acquired leucoderma was reported. She first noticed the enlarged thyroid at the age of 36, and thereafter leucoderma made its appearance 30 years later. Though a significant association between these two diseases has been found in the literature thus far and they are considered to be of autoimmune origin, their coexistence is not so common clinically. In spite of PUVA treatment, a benefit effect was not obtained completely.

Vitiligo has been known to occur with multiple diseases which are considered to be of autoimmune origin<sup>1,8,18)</sup>. These include pernicious anemia, diabetes mellitus, hyperparathyroidism, alopecia areata, Addison disease and various thyroid diseases<sup>13,17)</sup>.

The frequency of autoantibodies for vitiligo was reported thus far<sup>4,11)</sup>, however, it is not so common that this disease, clinically, coexist with Hashimoto's thyroiditis. The present report describes a case of Hashimoto's thyroiditis, associated with vitiligo 30 years after being aware of enlarged thyroid for the first time.

### CASE REPORT

A 67-year-old female first came to our attention, when her blood pressure readings were 160/90 and acquired leucoderma appeared. She first noted the enlargement of the thyroid at the age of 36. She has no family history. Results of physical examination were almost unremarkable except patchy areas of leucoderma which developed for recent several years, rubbery or

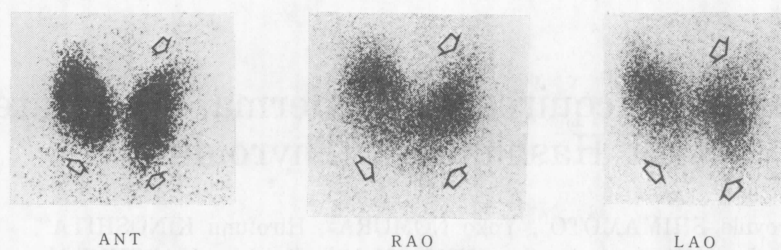
granular hard goiter and mild hypertension of 150/90.

Blood chemical examinations were shown in the Table 1. Significant elevated titers of microsome antibodies were found. Meanwhile, the patient had a clinically and chemically normal thyroid function.

**Table 1.** Laboratory findings

T3	1.11ng/ml (0.7—2.1)
T4	6.9mg/dl (4.5—12.3)
TSH	4.0mU/ml (2.0—10.0)
Thyroid test	< ×100 (< ×100)
Microsome test	×51200 (< ×100)
ASO	(-)
ASK	< ×20
DNA	(-)
C3	76.7mg/dl (60—130)
C4	43.8mg/dl (13—50)
IC	1.8μg/ml (<3.0)
T-cho	50mg/dl

Nuclear thyroid imaging using Tc-99m sodium pertechnetate represented multiple areas of

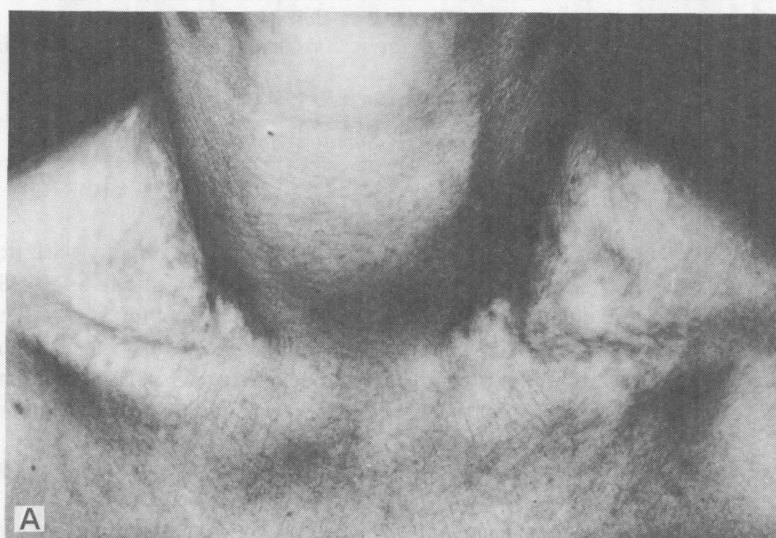


**Fig. 1.** Nuclear thyroid imaging using Tc-99m sodium pertechnetate shows decreased activity in left upper, left lower pole and right lower pole. (open arrows)

ANT; anterior view

RAO; right anterior oblique view

LAO; left anterior oblique view



**Fig. 2.** A; This shows the enlargement of thyroid and depigmented areas around the shoulder, upper chest and neck.  
B; There are well-demarcated depigmented spots without any inflammation in nuchal or scapular regions.

reduced radioactivity and architectural distortion on both oblique rather than anterior view, consistent with Hashimoto's thyroiditis (Fig. 1). Thus, the diagnosis of Hashimoto's thyroiditis was confirmed after physical examination, her history, and nuclear thyroid imaging.

Skin examination disclosed symmetrical depigmentation of upper back, chest, neck and face without any evidence of inflammation (Fig. 2). In spite of the treatment including PUVA, it did not induce repigmentation. And till then no therapy of hypertension was given, involving thiazide diuretics and so on.

### DISCUSSION

There have been several reports in the literature describing thyroid diseases in company with acquired vitiligo<sup>3,6,10</sup>. Regarding its frequency, Miklaszewska et al<sup>10</sup> reported that there were 2 cases of coexisting Hashimoto's disease out of 41 patients with acquired leucoderma. While, in the total of 56 patients with various thyroid diseases, leucoderma was present in 7 (12.5%), including 4 of 11 cases of Graves Basedow disease (36%) 2 of 8 cases of Hashimoto's disease (25%). The frequency of acquired leucoderma accompanying thyroid diseases (12.5%) is similar to that found by Habermann<sup>6</sup>. However, Caravati et al<sup>3</sup> reported that they did not experience any cases of acquired leucoderma among 154 patients with hyperthyroidism and threw the main emphasis upon reservations with regard to the reports of coexistence of acquired leucoderma with thyroid disease.

There are some considerations about the relation between the two diseases. In general, it is most likely that autoimmune reactions are responsible for their coexistence. Previous studies demonstrated an increased incidence of tissue specific antibodies in the sera of white or black patients with vitiligo<sup>5,10</sup>. Considering the effect of thyroid hormone, a case reported by Sainton in which leucoderma disappeared after thyroidectomy in a patient with thyrotoxicosis, and moreover, experimentally, Sainton also presented decoloration of the fur in rabbits, given large doses of thyreoidin (cited after 2).

On the other hand, in line with the thought suggested by Reley's work about acquired leucoderma<sup>16</sup>, the number of melanocytes is diminished because an effect of abnormal phenol

metabolites impairs the vital functions of the melanocytes. In view of his opinion, it is natural to suppose that thyroid function becomes impaired, since the synthesis of thyroxine as well as melanin needs tyrosine, which also has a phenol component.

Whereas, when various kinds of drugs, especially antihypertensive drugs, are being administered to the patient having depigmentations, their side effects must be taken into consideration<sup>12</sup>. But, since antihypertensive drugs, which are most likely to cause them, were not given so far in our case, it was considered to be irrelevant to drug-induced hypomelanosis.

According to Ochi and De Groot<sup>14</sup>, vitiligo associated with thyroid disease shows a tendency to involve palms and soles, and scattered macules elsewhere. But such tendency was hardly discernible in our patient.

As for the treatment, PUVA treatment might obtain repigmentation in vitiliginous spot, considering PUVA has a possibility of inducing alterations in the bodies immune functions and altered vascular reactions in the skin<sup>9</sup>. The response to this therapeutic method was not dramatic in our case.

Thyroid scintigraphy has recently been known to be a useful method to diagnose Hashimoto's thyroiditis<sup>15</sup> and especially on both oblique rather than anterior view was it useful in this case. As Karelitz stated about a thyroid nodule<sup>7</sup>, oblique views may provide a valuable means of evaluating the hypofunctioning areas in Hashimoto's thyroiditis.

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