LETTER TO THE EDITOR

Type II amiodarone-induced thyrotoxicosis and concomitant papillary cancer of the thyroid

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We report the clinical history of a 67-year-old man with a known hypertrophic non-obstructive cardiopathy and recurrent paroxysmal atrial fibrillation, treated with amiodarone (daily dose: 200 mg) from September 1997 to April 1999. By this time, amiodarone treatment was stopped because of the fear of side-effects. The patient did well until December 1999, when he experienced a relapse of tachyarrhythmic crisis that became more frequent and prolonged. Serum thyrotropin (TSH) was measured in January 2000 and found suppressed (it was normal under amiodarone 1 year before), with elevated free thyroxine (T_4) and free tri-iodothyronine (T_3) in the presence of negative thyroid peroxidase-, thyroglobulin- and TSH-receptor antibodies. Thyroid ultrasound showed a diffuse goiter (total volume 30 ml) with normal echogenic pattern; an isolated ipoechoic nodule was localised at the inferior pole of the right lobe, measuring 11×8 mm. A

thyroid ^{123}I -scan was performed, showing a reduced uptake (3% at 2 h, 1% at 24 h). At that time prednisone treatment was started (details about treatment and hormonal data are summarised in Fig. 1). After ten weeks of ineffective drug treatment, the patient developed heart failure and was referred to a surgical department where total thyroidectomy was performed; the peri- and postoperative course was uneventful. Histological examination disclosed focal tissue damage with degeneration and vacuolisation of follicle cells, follicular destruction, lymphocytic and granulomatous inflammation without giant cells but with many foamy macrophages, all of which are typical of tissue damage due to amiodarone (1). The right sided nodule (13 mm) featured a papillary cancer, partly sclerosing and microcystic; no vascular invasion was detected (pT₂).

A remarkable aspect of this clinical course is the long

Figure 1 Free T_4 concentrations during the course of AIT in a patient under pharmacological treatment and following thyroidectomy.

latency (about 8 months) which occurred between amiodarone withdrawal and the appearance of thyrotoxicosis. In most reported patients with amiodarone-induced thyrotoxicosis (AIT), diagnosis was established while the drug was given, or soon after withdrawal.

It is not unusual for AIT to require multiple drugs (consecutively or in combination) treatment before metabolic control is attained (2, 3). Nevertheless, some evidence suggests that type II AIT can more easily be treated by glucocorticoid regimen alone (4, 5). With the exception of the isolated small thyroid nodule, our patient fulfilled the diagnostic criteria of type II AIT: reduced or absent ^{123}I -uptake, no hypoechogenic pattern by ultrasound, negative thyroid antibodies. In spite of that, he did not respond to a three-week course of prednisone. Assuming a mixed form of AIT, the treatment was changed to KClO_4 and methimazole, but again without any improvement. It is noticeable that only lithium treatment was able to induce some fall in free T_4 , but worsening cardiac failure prompted us to perform thyroidectomy. Lithium seems to be a valid option in the treatment of AIT (6).

Another intriguing element is the histological diagnosis of an occult T2-papillary carcinoma. This is in keeping with epidemiological data showing that thyrotoxic patients have a similar incidence of differentiated thyroid cancer as compared with the general population (for a review, see 7). The old dogma that the finding of hyperthyroidism in a given patient indicates a lower risk of thyroid cancer has to be questioned.

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