Thyroid dysfunction secondary to antiviral therapy: a simple management protocol

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Introduction
Interferon and Ribavirin-based Hepatitis C therapy can induce or exacerbate autoimmune thyroid dysfunction with variable clinical presentation. Being female, having prior thyroid dysfunction and raised anti-thyroid peroxidase (anti-TPO) antibodies are risk factors. We have a protocol for managing thyroid dysfunction that occurs during hepatitis C antiviral therapy. We present four cases.

Case 1
A 48 year old man diagnosed with hepatitis C infection was found to have mild hypothyroidism with raised anti-TPO antibody levels before starting antiviral therapy. After starting therapy (Pegylated Interferon alfa-2a and Ribavirin) in August 2011, he developed severe hypothyroidism seven months later. He remains on long-term thyroxine replacement.

Case 2
A 55 year old man diagnosed with hepatitis C infection had a normal thyroid function test (TFT) but raised anti-TPO antibody levels before antiviral treatment. In February 2012 he developed severe hypothyroidism five months after starting antiviral treatment. He remains on long-term thyroxine replacement.

Case 3
A 41 year old woman diagnosed with hepatitis C infection had a normal TFT and normal anti-thyroid peroxidase antibody levels before antiviral treatment. In July 2014 she developed thyrotoxicosis six months after starting antiviral treatment. She developed hypothyroidism two months after that and still has mild hypothyroidism.

Case 4
A 56 year old man diagnosed with hepatitis C infection had a normal TFT before antiviral treatment. In May 2012 he developed thyrotoxicosis four months after starting antiviral treatment. He then developed hypothyroidism which required thyroxine replacement. This resolved after six months and he is no longer on treatment.

Conclusion
Our protocol ensures that patients with hepatitis C infection have their thyroid hormones and anti-TPO antibody levels measured prior to starting antiviral therapy. Thyrotoxicosis is monitored and does not require anti-thyroid treatment. Hypothyroidism is treated if severe or there are symptoms. All patients are followed up after antiviral treatment.