Management of hypothyroidism in Pregnancy with Armour Thyroid

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Introduction

Armour Thyroid is a brand of desiccated porcine extract which is historical treatment for hypothyroidism. Its use in present day is considered obsolete and has been superseded since the 1960's by Levothyroxine[1].Each grain (60mg) contains 38mcg of levothyroxine and 9mcg of liothyronine [2]. Due to limited clinical effectiveness studies, it is not licensed for use in the united kingdom[3]. We present a case of armour thyroid use in pregnancy at the patient's request.

Fig 1: Picture of Armour thyroid, source; www.health-care-supplements.blogspot.com

Background

A 33 year old lady was referred to our joint antenatal-endocrine clinic at 18 weeks gestation. She was initially diagnosed with primary hypothyroidism in 2010 with strongly positive thyroid peroxidase antibodies six weeks following her first pregnancy. She was then commenced on 125mcg of levothyroxine. Unfortunately treatment with levothyroxine failed to abate her symptoms of lethargy, apathy and weight gain. As result, she commenced a self-prescription with three grains of armour thyroid in 2011. She had a subsequent pregnancy which ended with a miscarriage at six weeks gestation whilst on armour thyroid.

In her third pregnancy, she presented at booking having increased her dose of armour thyroid to three and a half grains. Her TSH was suppressed throughout gestation at <0.02mU/L (0.20-4.00mU/L). Her average free T4 was 12.4pmol/L (9.0-19.0pmol/L) and free T3 6.15pmol/L (2.5-5.7pmol/L). The entire course of pregnancy was uneventful with normal foetal anatomy and interval scans. She delivered a live male foetus at 40 weeks with an unremarkable baby check and heel prick screen.

Table 1

Date	TSH (0.20-4.00) mU/L	Free T4 (9.0-19.0) pmol/L	Free T3 (2.5-5.7)pmol/L
October 2014	<0.02*	12.6	4.6
December 2014	<0.02*	12.1	6.4*
January 2015	<0.02*	10.7	4.0
April 2015	<0.02*	14.2	9.6*

Table 1; Trend of thyroid results of Armour thyroid in pregnancy

Fig 2: Armour thyroid grain, source; www.webmd.com

Discussion

Armour thyroid is not recommended for treatment of hypothyroidism in the U.K [4]. However patients are still able to obtain prescriptions over the internet. Other forms of desiccated thyroid extract also exist and there have been controversies in the literature as to whether they should be recommended for treatment of hypothyroidism [5,6]. There are safety concerns regarding excessive amounts of T3 relative to T4, which is inconsistent with normal physiology. Dosing can be challenging as this is largely based on patients symptoms rather than on laboratory values, however the potential side effects could mirror that of untreated hyperthyroidism [4,7]. In pregnancy, the potential risk to both mother and fetus are unknown. Moreover compared to levothyroxine, it is not regarded as a pure preparation of thyroid hormone with the possibility of dosage variability between batches. Our patient's TSH was suppressed throughout pregnancy, despite being fully aware of the potential risks. Although the outcome was uneventful, this case posed an ethico-legal challenge balancing patient expectation against recommended practice. Our PubMed search showed no previous publications on use of Armour thyroid in pregnancy, however some cases have been described on on-line patient forums. We do not recommend the use of Armour thyroid for treatment of hypothyroidism.

References

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