Hyperthyroidism linked to erectile dysfunction

Men suffering from an overactive thyroid gland are at an increased risk for severe erectile dysfunction according to new research presented at the joint International Congress of Endocrinology and European Congress of Endocrinology in Florence, Italy.

A multicentre European research group led by Professor Frederick Wu (University of Manchester) and Professor Mario Maggi (University of Florence) demonstrated for the first time that hyperthyroidism can negatively affect a man's erectile function. As many as six out of ten men suffering from overt hyperthyroidism could struggle to maintain an erection.

Hyperthyroidism is a common condition where the thyroid gland becomes overactive and produces too much thyroid hormone. Thyroxine, the main hormone, plays a vital role in digestion, heart and muscle function, brain development and maintenance of bones. Symptoms of hyperthyroidism include tiredness, mood disturbances such as irritability and depression, increased sweating and weight loss. If left untreated it can cause serious health problems including heart failure and stroke.

The current research investigated the relationship between thyroid hormones and erectile function in two large samples totalling 6573 men. The first group (3370 community dwelling men aged between 40 and 79 years) came from the European Male Aging Study (EMAS), a large multicentre survey spanning eight European countries. The second group consisted of 3203 heterosexual male patients (average age 52) seeking treatment for sexual dysfunction at the University of Florence’s Andrology and Sexual Medicine Outpatient Clinic (UNIFI study).

The researchers tested for thyroid stimulating hormone (TSH) – responsible for controlling the production of thyroid hormones – and free thyroxin (FT4), the active form of the hormone thyroxine circulating in the blood. They found clear cases of overt hyperthyroidism (reduced TSH and elevated FT4) in nine individuals (0.3%) from the EMAS study and seven patients (0.2%) from the UNIFI study, numbers consistent with the disease's prevalence in the general population.

In both groups there is a clear link between hyperthyroidism and an increased risk of severe erectile dysfunction. The results show that the lower the level of TSH detected in patients the higher their risk of suffering from erectile dysfunction (ED). Men with hyperthyroidism were 14
times more likely than their peers to suffer from ED in the EMAS study, and 16 times more likely in the UNIFI study. In contrast, men suffering from erectile problems were not found to be at higher risk for developing hyperthyroidism.

Erectile dysfunction (ED), also known as impotence, is the inability to achieve and maintain an erection that is sufficient for sexual intercourse. ED is a very common condition, affecting around one in ten men, with that number rising significantly as men age.

Researcher Dr Giovanni Corona, from the University of Florence, said:

“While anecdotal data indicates that erectile dysfunction is frequent in men with hyperthyroidism, this theory has only been superficially investigated. We demonstrated for the first time in two large samples that there is a strong correlation.

“Further studies need to look at the direct effect of thyroid hormones on penile structures as well as the effect of thyroid therapy on sexual function.

“Hyperthyroidism is one of the most important causes of medical consultation in the world. To check sexual function in these patients could dramatically improve their quality of life.”

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Notes for editors
The talk (OC11.5) will be presented at the International Congress of Endocrinology/European Congress of Endocrinology at 10:30-10:45, Tuesday 8 May 2012.

The joint 15th International Congress of Endocrinology/14th European Congress of Endocrinology, Europe’s biggest scientific meeting on hormones, is taking place in Florence, Italy on 5-9 May 2012. For the full programme, see http://www.ice-ece2012.com/.

Please mention the International Congress of Endocrinology/European Congress of Endocrinology in any story

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ABSTRACT

Thyroid hormones and male sexual function

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Objective. The role of thyroid hormones in the control of erectile functioning has been only marginally investigated. The aim of this study is to investigate the association between thyroid and erectile function in a general population sample (European Male Aging study, EMAS study) and in patients seeking medical care for sexual dysfunction (University of Florence Study, UNIFI study).

Participants. Two different cohorts of subjects were evaluated. The first one derives from EMAS study, a multicenter survey performed on a sample of 3,370 community dwelling men aged 40-79 years (mean 60±11 years). The second cohort is a consecutive series of 3203 heterosexual male patients (mean age 51.8±13.0 years) attending our Andrology and Sexual Medicine Outpatient Clinic for sexual dysfunction at the University of Florence (UNIFI study). In the EMAS study all subjects were tested for thyroid-stimulating hormone (TSH) and free thyroxin (FT4). Similarly, TSH levels were checked in all patients in the UNIFI study, while FT4 only when TSH resulted outside the reference range.

Results. Overt hyperthyroidism (reduced TSH and elevated FT4, according to the reference range) was found in 0.3 and 0.2% of EMAS and UNIFI study, respectively. In the EMAS and UNIFI samples, TSH levels were inversely related with erectile dysfunction (ED). Overt hyperthyroidism was associated with an increased risk of severe erectile dysfunction (ED, hazard ratio=14 and 16 in the EMAS and UNIFI study, respectively; both p<0.05), after adjusting for confounding factors. These associations were conformed in nested case-control analyses, comparing subjects with overt hyperthyroidism to age, BMI, smoking status and testosterone-matched controls. Conversely, no association between hypothyroidism and ED was observed.

Conclusions. Erectile function should be evaluated in all individuals with hyperthyroidism. Conversely, assessment of thyroid function cannot be recommended as routine practice in all ED patients.