

## CASE REPORT

# Graves' dermopathy without ophthalmopathy in pregnancy an unusual presentation

Mohd Ashraf Ganie\* LK Meher\*\*\*, Alka Kriplani<sup>†</sup>, AC Ammini\*\*

\*Department of Endocrinology, Sher-i Kashmir Institute of Medical Sciences, Srinagar, J&K, India, \*\* Department of Endocrinology and Metabolism, and #Department of Gynecology and Obstetrics, All India Institute of Medical Sciences, New Delhi, India.\*\*\* Department of Medicine, MKCG. Medical College, Berhampur, Orissa

### ABSTRACT

Graves' dermopathy is an uncommon disease and is almost unknown during pregnancy and in the absence of ophthalmopathy. We report a case of Graves' disease with pretibial myxedema without any overt ophthalmopathy in the second trimester of a primigravida. The rare occurrence and early presentation of the condition with probable pathogenesis is discussed. [IJEM 2007;11(1&2)51-52]

*Key Words:* - Graves' ophthalmopathy, dermopathy, pretibial myxedema, pregnancy

### INTRODUCTION

Thyroid dermopathy occurs in 0.5-4% of Graves' hyperthyroidism patients and is almost always associated or preceded by infiltrative ophthalmopathy(1). Although it commonly occurs over shins (Pretibial myxedema), it can also affect feet, dorsum of hands, neck and face. The morphological features range from non pitting hyperkeratotic pigmented discoloration through raised plaques, nodules or polyps to the extreme form of elephantiasis verrucosa nostras(2). Histology typically reveals deposition of glycosaminoglycans and damage to collagen and elastic fibers. The exact cause is unknown, but cross-reacting TSH receptor and other autoantibody mediated fibroblast and preadipocyte stimulation is proposed(3).

We present a case of Graves' thyrotoxicosis with dermo-pathy in a pregnant female with many peculiarities like its early age at presentation, rare occurrence during pregnancy and the absence of associated ophthalmopathy.

#### Case report

Mrs. VP, 24 years primigravida presented in second trimester of her pregnancy to our hospital with 8 months history of palpitations, nervousness, heat intolerance,

hyper defecation, hyperhidrosis and tremor. Two months later she had developed ammenorrhoea and was found to have positive pregnancy test. In the first trimester of her pregnancy she had noted hyperpigmentation, itching and localized swelling over the anterior aspect of both legs. She refused any ocular symptoms like excessive tearing, irritation, prominence of eyes, photophobia, diplopia or defective vision.

On physical examination she had anxious look, heart rate of 120/min, BP of 140/80 mm of Hg, moist warm hands, fine tremor of outstretched hands, with brownish, no pitting, hairy elevated plaque like peu'dorange thickening over both shins. She was lean and had grade-II, diffuse, soft, smooth goiter without any bruit. There were no overt features of Graves' ophthalmopathy. Ophthalmoscopic examination was unremarkable. Examination of abdomen revealed a fundal height of 24 weeks with fetal heart rate of 160/min. Investigations revealed normal blood counts, liver and kidney function tests. Thyroid function test revealed FT3 = 17 pg/ml (range 1.4-4.4), FT4 = 6ng/dl (range 0.75-1.85), and TSH <0.002  $\mu$ IU/ml (range 0.4-4). USG thyroid revealed uniform and homogeneous enlargement. USG of the orbit revealed no retro orbital depositions or increased muscle thickness. Uterine USG showed a single live fetus with gestational age of 24 $\pm$ 2 weeks with no suggestion of any fetal malformation. Diagnosis of Graves' thyrotoxicosis with pretibial myxedema without any overt ophthalmopathy was obvious in this pregnant female .She was started on

#### Address for correspondence

Dr. AC Ammini, Department of Endocrinology and Metabolism, All India Institute of Medical Sciences, New Delhi, India.  
E-mail : aca433@yahoo.com

propylthiouracil 300 mg daily and was found to be euthyroid 4 weeks later.

## DISCUSSION

Thyrotoxicosis in its severe form is known to cause derangement in menstrual cycles, oligo-ovulation and hence impairment in fertility. This makes pregnancy less likely in presence of thyrotoxicosis. Furthermore the manifestation of Graves' disease attenuate during later part of pregnancy. This case conceived while having florid thyrotoxicosis.

Thyroid dermopathy occurs in 0.5-4% of Graves' disease and is commonly associated with mechanical ophthalmopathy affecting 15% of such patients. The ophthalmopathy is usually severe and affects almost all patients of Graves' disease with dermopathy(4). Dermopathy may persist for months or years, and regresses either spontaneously or with corticosteroids(5).

Our patient had no clinical or ultrasonographic evidence of ophthalmopathy, which is in striking contrast to the conventional observation of universal association of ophthalmopathy with dermopathy. In a series of 150 cases of pretibial myxedema as reported by V. Fatourechhi et al, only one patient had no ophthalmopathy at the time of diagnosis(2). Dermopathy of Graves' commonly presents in 4th and 5th decade but our patient was in 3rd decade highlighting another peculiarity of the case.

To the best of our knowledge there are no cases of pretibial myxedema reported in pregnancy with Graves' disease. Moreover, our patient presented with symptoms during second trimester and had florid dermopathy which is atypical of the case as the abatement of symptoms and limited autoimmunity is expected according to the conventional belief. This is attributed to decrease in autoantibody titer, rise in TBG, reduced availability of iodine to thyroid and predominance of blocking than stimulating TSH receptor auto antibodies(6). Although

the pathogenesis is still controversial high concentration of TSH receptorstimulating antibodies and TSH receptor RNA sequences in cultured fibroblast and preadipocytes obtained from areas of localized myxedema favor the cross reaction and molecular mimicry. Fibroblast stimulation via cytokines like IL-1, TGFB and a 72 KDa heat shock protein, an immunomodulator has been demonstrated to cause glycosaminoglycan production in vitro(7).

Absence of ophthalmopathy with florid dermopathy in this pregnant female makes the case interesting as one would expect limited autoimmunity in pregnancy (less dermopathy). The patient is under close follow up and till three and half year of observation, there was no evidence of ophthalmopathy. This discordance of signs further complicates the concept that the etiological factors for these extra thyroid manifestations of Graves' disease may not be the same and raises the scope for further investigation.

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