MYXOEDEMA IN YOUNG WOMEN

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Although the nature of the relationship between the thyroid gland and the gonads is undetermined (Spence 1953) it is well recognized that the incidence of clinical subthyroidism and myxoedema is far greater in women than men, and highest at or after themeno pause*. Green (1951), however, says that the demand of the body for thyroid hormone is greatest in women at puberty and during pregnancy and lactation, and it is perhaps surprising, therefore, that the development of subthyroidism soon after a normal confinement appears to be uncommon, judging by the very few references in the literature. Fraser and Garrod (1955), in their paper on " Primary myxoedema apparently dating from post-partum shock ", mention that primary myxoedema may first become evident during the post partum period, but give no references and search of the literature is almost completely unrewarding. However, Roberton (1948, 1959) wrote on " Lassitude, Coldness and Hair Changes following Pregnancy, and their Response to Treatment with Thyroid Extract " (a paper which received a Sir Charles Hasting's prize); and " Mild Hypothyroidism in General Practice " (and this paper is essentially about the same syndrome that he described 11 years earlier).

In my experience Roberton's syndrome commonly brings women for laboratory investigation and, now-a-days, I largely confine tests to haemoglobin estimation and a suggestion that precautionary chest x-ray be done.

In this syndrome, loss of libido is also common and fear of another pregnancy may complicate the picture. Typically, the woman with the Roberton syndrome is slim or thin with thyroid gland impalpable so that the tracheal rings are easily felt. After a few weeks on a small daily dose of thyroid some patients firmly express physical and mental betterment, with the loss of libido as the last feature to

*The old Hungarian folk custom of judging the capacity of the husband by the difference in measurement of the bride's neck before and after the wedding night is more likely to depend, I think, on the action on the thyroid gland by the suprarenals and not from the ovaries.

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Case I 1953

Case I 1962

improve. In a personal communication, Roberton also commented on this and said that some of his patients blamed their tablets when they became pregnant again. Roberton's syndrome is not true myxoedema, and its cause is still obscure. I describe a few cases of clinical subthyroidism in young women in whom the symptoms followed fairly soon after an uncomplicated confinement.

Case 1. Mrs W. S.; aged 25 when first seen on 25 November 1953. Her first child was born on 22 August 1953 and was breast fed for 3 weeks. She had had three normal periods since the confinement, but for the past month had been very tired, sleepy, and irritable, but not breathless and had noted puffiness round the eyes in the morning, and swelling of the hands and feet in the afternoon. She had been sensitive to the cold for years, but no more so lately, and there had been no change in appetite, weight, or bowel action.

She was plump and cheerful, with frankly puffy face; pulse 64; skin of forearms slightly rough; the thyroid gland was just palpable, including the isthmus; weight 8 st. 7 lbs, height 5 ft. 0 in.; urine normal; haemoglobin 96 per cent; red blood cells 4.6 million per c.mm., sedimentation rate 4 mms. in 1 hour; serum cholesterol 500 mg. per cent; serum protein, colloidial gold, and alkaline phosphatase normal; basal metabolic rate "— 28 per cent"; (*see* figure 1). Treatment with dry thyroid was started ½ grain a day and progress was good up to August 1954 when she had reached 1½ grains a day and her weight had dropped to 7 st. 5 lbs. She was not seen again until 10 January 1957 when she said she had been getting 1 grain of thyroid daily, but 1½ grains a day for the past month and her weight was 8 st. 1 lb., and this had risen to 8 st. 8 lbs, when she was next seen on 6 February 1958.

She was next seen soon after her second son was born on 11 October 1959, and she was taking 2 grains of thyroid daily and extra if she felt like it. She breast fed this baby for 1 month. When next seen on 19 January 1961 she had been taking 3 grains of thyroid daily since the baby was born; was still feeling tired and as her weight was 8 st. 12 lbs and B.M.R. "— 8 per cent", an extra ½ grain of thyroid daily was suggested and her weight had dropped 12 lbs on 23 February 1961.

On 2 November 1961 her weight was again 8 st. and her serum gave a weak positive test for antithyroid antibodies, the titre being 1 in 25. When seen in February and May 1962 she was keeping well on 3 grains of thyroid daily and on 28 July 1962 her weight was 8 st. 2 lbs (*see* figure 2).

(This patient's aunt had been diagnosed in this department as having mild myxoedema in June 1952 when age 29. She had been a widow for 2½ years and had one son age 4½. She improved steadily on oral thyroid reaching 1½ grains a day and married again in March 1953 and in January 1955 had twins one of whom died age 5 days. Her serum when first tested for thyroid antibodies in September 1961 gave a weakly positive result, the titre being 1 in 5.)

Case 2. Mrs D. E. aged 25 was first referred to this department on 29 October 1957 for investigation of subthyroidism because of her facial appearance; she had one son nearly 2 years old, and since that confinement had had intermittent low backache; she had been sensitive to the cold for a long time and worse since the baby was born, her wrists had been rough for about 6 months, and for 3 months she had been tired, but not breathless, and had also noticed lack of interest and concentration and her mother and neighbours had commented on her face being puffy; there had been no change in appetite, bowel action, or weight. Weight 8 st. 1 lb., height 5 ft. 4 in.; speech slow, lips pale purple, face slightly puffy, thyroid gland not felt; pulse 75. Hb. 70 per cent, red blood cells

3.5 million per c.mm., MCV 97 cubic; ESR. 19 mm. in 1 hour; urine normal; serum cholesterol 238 mg. per cent and colloidal gold normal BMR " — 26 per cent ".

Dry thyroid was started by mouth at ½ a grain a day and continued at 1 grain a day for nearly 5 months and on 21 March 1958, when her weight was 8 st, it was increased to 1 and 2 grains on alternate days. On 30 January 1959 she felt well and was 4 months pregnant. A girl weighing 6 lb. 8 ozs was born on 6 July 1959. During the pregnancy her weight had risen to 9 st. 8 lbs but 8 weeks after the baby was born it had dropped to 8 st. She continued well and the daily thyroid was reduced to 1 grain a day which has been maintained ever since.

When next seen on 28 July 1960 she had had an irritable butterfly rash on nose and upper cheeks for the past 2 months, and not felt so well; there had also been red blotches on the fingers of the left hand and she said she got chilblains each year. She was referred to Dr P. Inman, consultant dermatologist, and a diagnosis of lupus erythematosus was made and treatment with plaquenil and weekly gold injections for ten doses, was carried out, and the face and hands had cleared by about the end of the course of injections. On 3 October 1961. Hb. 76 per cent, ESR 18 mm. in 1 hour; serum albumin 2.7 G. per cent, globulin 3.5 G. per cent, alkaline phosphatase 17 units, colloidal gold normal; latex test negative; thyroid antibody test weak positive, titre 1 in 25; serum electrophoresis showed slightly increased gammaglobulin; in November 1961 the ESR and serum proteins were normal, and in May and September 1962 her weight was steady at 7 st. 10 lbs and she was feeling and looking well, on her 1 grain of thyroid daily. This patient had a marked relapse of her lupus erythematosus early in 1963.

Case 3. Mrs Violet S. age 37 when first seen on 19 December 1960; she had children of 3 and 1½ years, and breast fed the second for 9 months, and then started to gain weight to a total of 1½ stone and when the baby was 1 year old, she noted tiredness, puffiness of the face and eyelids, increased feeling of coldness, aching of the legs, arms, and hands, irritability, huskiness of the voice, and impairment of memory and concentration. Her menstrual periods were usually 6/28, but for several months had been 6/21 to 24. She was well built, 11 st. and 5 ft. 3 in. with thick, greying hair, slightly husky voice, puffy eyelids, and slightly dry palms; her thyroid gland could not be felt. Hb. 90 per cent and ESR 10 mms. in 1 hour; urine normal; serum cholesterol 300 mg. per cent; colloidal gold 000000; BMR "— 19 per cent ", and the haemagglutination test for antithyroid antibodies gave a strong positive result, the titre being 1 in 10240.

Treatment was started with dry thyroid by the mouth, ½ a grain a day for a fortnight and then 1 grain daily and improvement was noted during the next 2 months when there had been a weight loss of 8 lbs. On 15 March her weight was up 5 lbs and thyroid was increased to 1½ grains daily; on 6 July her weight had dropped to 10st. 2 lbs and she thought she was in early pregnancy.

Thyroid was continued at 1½ grains a day, but increased to 2 grains a day on 18 October as BMR was " — 2 per cent ". On 8 February 1962 her weight was 11 st 13 lbs, and a baby girl was born on 2 March weighing 8 lbs 12 ozs.

On 24 April she, and the baby, were thriving; on 10 May her weight was 10 st. 6 lbs; pulse 63, and she was breast feeding fully, and felt very well.

On 21 June she was feeling well, but had noted herself warmer for 2 months, and thyroid was reduced to 1 grain daily; thyroid antibody test showed a titre of 1 in 3125. On 9 August her weight was steady on 1 grain a day, but her optimal dose is still not settled.

Case 4. Mrs Vera S.; age 34 when first seen on 7 March 1961. She had four children, three in the past 2½ years, the youngest being 4 months. For 1 month she had noted tiredness, aching in wrists and fingers and slurring of speech, so that people had commented that she spoke as if she was drunk; denied cold

sensitivity; her appetite was small. She was 10 st., 5 ft. 2½ in.; pulse 64; hands appeared normal, thyroid gland not palpable. Hb. 83 per cent; ESR 18 mms in 1 hour, serum cholesterol 533 mg. per cent, colloidal gold 210000; Wasserman reaction and latex slide test were negative; thyroid antibody test strong positive, titre 1 in 78125; BMR " — 28 per cent ".

She started on ½ grain thyroid daily and on 11 April she was feeling and talking better and had lost 2 lbs weight and another 6 lbs on 16 May. On 27 July she was still tired and thyroid was increased to 1 and 2 grains on alternate days.

On 28 September she was sure of early pregnancy again; the tracheal rings were easily felt; Hb. 72 per cent, red blood cells 3.2 million per c.mm.; mean corpuscular volume 103 cubic μ; serum cholesterol 267 mgs per cent; folic acid was started as well; thyroid antibody test was weak at 1 in 125.

She kept well to the end of the year, but as Hb. was 60 per cent in January 1962 she had a blood transfusion in hospital. On 3 March 1962 a son was born and on 17 April her weight was 9 st. 2 lbs and her Hb. 110 per cent.

On 28 June her weight was up 10 lbs to 9st. 12 lbs, serum cholesterol 333 mgs. per cent, BMR "— 6 per cent"; and the daily thyroid was increased to 2 grains instead of 1 and 2 on alternate days.

She did not breast feed her new baby at all and said that very little milk came with any of her babies, save for about 10 days with the first. 9 August 1962 her weight had dropped 9 lbs on the extra ½ grain on alternate days. 6 December 1962 weight 10 st. 8 lbs compared with 9 st. 3 lbs in August, and patient was again in mid pregnancy, and the baby was born normally in May 1963.

Summary

Women of 25, 25, 37, and 34 years old showed good evidence of subthyroidism when first seen 3 months, 20 months, 18 months, and 4 months after uncomplicated confinements. In three the thyroid gland could not be felt, and in the fourth, although small at first attendance, it could not be felt a few months later. Their condition returned to normal on oral treatment with dry thyroid. They became pregnant again after 5 years, 1 year, 6 months and 3 months of thyroid treatment and all had normal confinements and healthy babies. The second patient had an episode of lupus erythematosus which responded well to treatment.

This true subthyroid condition has to be distinguished from the syndrome described by Roberton.

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