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## Are the Adrenals “hypothyroid - lazy” in severe hypothyroidism?

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**Background:** Primary hypothyroidism is one of the most common endocrine disorder, prevalence is in the ranges of 3.8 - 10.9%. It has been estimated that about 42 million people in India suffer from thyroid diseases. With easier availability of the assays and better affordability we are able to diagnose and treat hypothyroidism much earlier. On the other end, we are seeing patients with TSH > 100 at diagnosis, most of them done as a part of routine screening often with no other comorbidities.

**Materials and Methods :** The present case series is a descriptive and observational case study of 25 consecutive cases diagnosed on routine screening with TSH > 100. We assessed the Zulweski clinical score, BMI, goitre grading as a part of the clinical examination. Biochemical evaluation included an 8 AM cortisol, prolactin and T<sub>3</sub>, T<sub>4</sub> TSH. LT<sub>4</sub> replacement was started in all.

**Results:** The median age of presentation was 26.76 years and 96% were women. Weight gain was a presenting feature only in less than one third of the cases. The commonest feature of presentation was easy fatigability. Prolactin was elevated in 64% of the cases. 8 AM cortisol levels were normal in two-thirds of the cases. Three (12%) presented within 72 hrs of taking LT<sub>4</sub> with fatigue, tiredness, headache and hypotension (all had low cortisol). They were managed with intravenous followed by oral hydrocortisone. On follow up, we could withdraw Hydrocortisone within a period of three months.

**Conclusion:** In this series, severe primary hypothyroidism was not associated with weight gain in most. Twelve percent of the cases had clinical and biochemical hypoadrenalism after levothyroxine therapy. Routine replacement with steroid is not indicated in all cases of severe hypothyroidism but when dealing with severe primary hypothyroidism as in our cases, a check on Cortisol and serum electrolytes is worth considering along with a careful watch for the clinical symptoms of hypoadrenalism in the first few days after starting levothyroxine treatment. Baseline 8 AM cortisol may help in predicting the precipitation of adrenal failure post levothyroxine.

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