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Hyperandrogenemia due to ingestion of *Butea superba*

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Sir,

Androgen or testosterone is an important masculine hormone. It helps construct the male appearance. Hyperandrogenemia is majorly described in females with hirsutism,^[1] insulin resistance^[2] and polycystic ovarian syndrome.^[3] However, hyperandrogenemia in males is not frequently mentioned. In this short article, the authors report a case of hyperandrogenemia due to ingestion of *Butea superba* a herb found in South East Asia. This is an interesting case of hyperandrogenemia induced by an external source. The effect of phytoandrogens is also discussed.

The patient was a Thai single male, aged 35 years, without any underlying disease (his basic annual laboratory checkup showed normal results). On presentation, the chief complaint of this patient was a feeling of increased sexual drive. He gave the history of no use of narcotic and regular intake of vitamin and nutritional supplementation. Physical examination revealed no significant abnormality. Laboratory investigations were performed which showed increased dihydrotestosterone (1512 pg/mL, reference value 250–990 pg/mL). The results of other sexual hormone related investigations in this case included dehydroepiandrosterone sulfate 328 µg/dL, free testosterone 1.7% and sex hormone binding globulin 43.24 nmol/L [no data on follicle stimulating hormone (FSH) and luteinizing hormone (LH) levels]. The diagnosis of hyperandrogenemia in this case was therefore arrived at. Further investigation to find the source of androgen in this case was performed. With complete history taking, the clinical nutritionist could define an important problematic food component, *B. superba*, a local herb. The patient gave additional information that he had just taken this locally made capsule of this herb for a few weeks because he was suffering from hair loss. This patient was advised to stop ingestion of this herb, and follow-up after 1 week revealed that the patient had no feeling of increased

sexual drive and dihydrotestosterone had decreased to normal level.

In general, androgen plays an important role in the sexual drive of males. Decreased androgen level is strongly related to reduced sexual activity and decreased sexual drive.[4] This is a common problem in old males[4] and in cases with erectile dysfunction.[5] In males with the problem of sexual desire, androgen investigation is a useful test.[6] In this case report, the patient also complained of increased sexual desire, which might have been due to exogenous hyperandrogenemia. Similar to hyperestrogenemia caused due to phytoestrogens, some herbal regimens might contain phytoandrogen that can lead to hyperandrogenemia. In this case, *B. superba* is the problematic external source of excessive androgen. This plant is considered to be a male potency herb. In animal models receiving this herb, stimulation of sexual organ has been reported.[7,8] In case of human beings, there is only one previous trial using this herb for treating erectile dysfunction.[9] The effect of this herb is comparable to that of sildenafil.[9] However, there has never been any report on this herb in healthy males. This is the first case report on hyperandrogenemia due to ingestion of *B. superba*. With the widespread usage of local herbs presently, the effects of herbs need to be considered. Indeed, a previous report also mentioned genotoxicity due to large dosage ingestion of *B. superba*. [10]

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