

A possible animal model of naturally occurring multinodular goitre in the Nilgiris of southern India

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Until recently, iodine deficiency had been prevalent for centuries in a number of landlocked mountainous regions of the world.^{1,2} The Himalayan region³ and the Bernese region of Switzerland⁴ were especially known for severe endemic goitre as a result of this deficiency. Since the 1920s, the prevalence of goitre has fallen with the widespread use of iodised table salt.⁴

Many different human and animal inborn errors of metabolism can cause congenital goitre.⁵⁻¹² It has been shown to occur in animals such as Syrian hamsters, bongo antelopes, Dutch goats, Afrikander cattle, merino sheep, mice, fox terriers, pigs, Abyssinian cats, and horses.⁵⁻¹² However, we could not find any studies reporting congenital goitre in monkeys.

Here we report multinodular goitre occurring in wild rhesus monkeys in the Nilgiris (Blue Mountains) in the state of Tamil Nadu, southern India (Box). It is possible that these animals developed goitre because of a genetic defect. However, research has shown that livestock can develop iodine deficiency disorders (IDDs) due to an iodine-deficient diet, and may require the addition of iodised salt to their food.¹³ Thus it is possible that the multinodular goitre observed in Nilgiri rhesus monkeys is the result of low iodine levels in their mountain environment. Further investigation is necessary to establish the exact reason for the goitre.

A literature search failed to identify any studies of endemic goitre in humans living in the Nilgiri region, although a 2003 policy note issued by the Government of Tamil Nadu states that goitre is prevalent in some of its districts.¹⁴ Tamil Nadu has been aggressively pursuing eradication of goitre by various means, including raising awareness of IDDs, encouraging its people to demand iodised salt, and educating salt retailers to sell only iodised salt.¹⁵ If the disorder in the rhesus monkeys is indeed caused by iodine deficiency, they could serve as a model for naturally occurring multinodular goitre and would form a natural resource for studying this major thyroid disorder in humans.

Competing interests

None identified.

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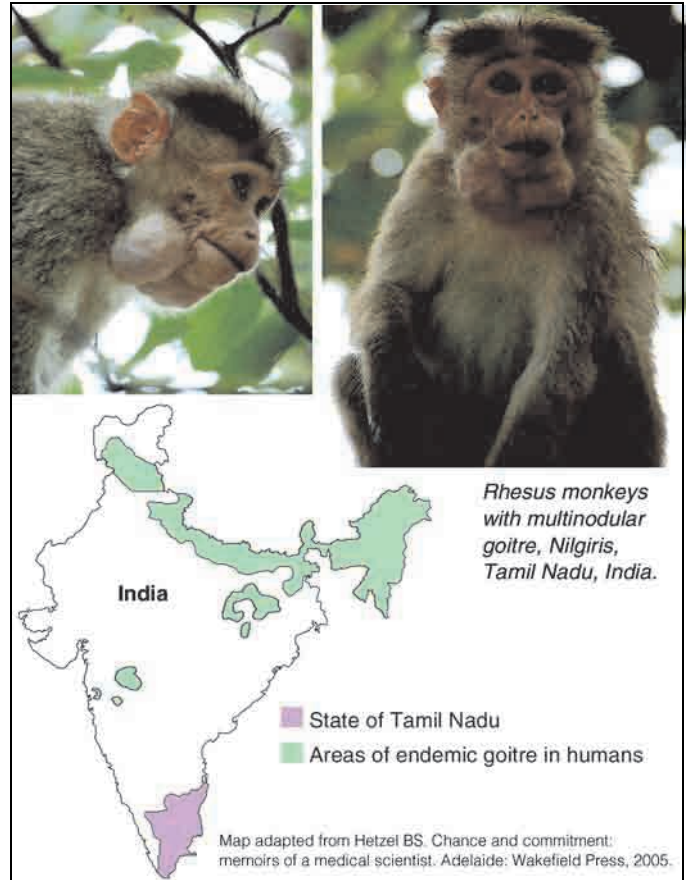
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