

SNAKE BITE AND HYPOPITUITARISM: IGNORANCE OR INCOMPETENCE?

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INTRODUCTION

Hypopituitarism as a consequence of snake bite is rare. However, there are a few case reports from India and adjacent South-East Asian countries. We present a case of hypopituitarism secondary to snake bite where the diagnosis was significantly delayed.

CASE REPORT

A 42yr old gentleman presented to the OPD with a 10yrs history of generalized weakness, lethargy, coarse facial features, reduced libido, reduced socialization and depression. He had an acute illness following a snake bite 15yrs ago. He had altered sensorium and acute renal failure requiring dialysis for several days following the snake bite.

He was managed by general physicians who diagnosed hypothyroidism and commenced levothyroxine. His symptoms persisted, for which his levothyroxine dosage was reorganized many times and multivitamins prescribed. Review of the original TFTs were consistent with secondary hypothyroidism, which had been overlooked over the previous 10 years.(Table 1)

TABLE 1:

DATE	SEP2002	15/07/2004	ON PRESENTATION TO THE OPD
TSH	0.84	0.112	0.00
Reference Range	0.47-5.01mIU/ml	0.4-4.0mIU/ml	0.35-5.5mIU/ml
T4	3.68		
Reference Range	4.5-12mcg/dl		
T3	89		1.32
Reference Range	80-200ng/dl		0.6-1.80 ng/ml
FT4		1.8	8.6
Reference Range		0.8-1.9ng/dl	9.0-20.0 pmol/L
THYROXINE DOSAGE	Eltroxin 3tablets/day (75mcgs)	Eltroxin +wysolone 10mg for 10 days	Eltroxine 100mcg

TABLE 2:

Sl. No.	HORMONE PROFILE	OBSERVED VALUES	NORMAL RANGE
1.	ACTH	6.10	7.2-63.3 pg/ml
2.	8AM CORTISOL	0.00	4.30-22.40 mg/dl
3.	FSH	<0.10	1.7-12 mIU/ml
4.	LH	<0.10	1.1-7.0 mIU/ml
5.	TESTOSTERONE	<0.10	3.0-10.6 ng/ml
6.	GROWTH HORMONE	<0.05	0.00-4.00 ng/ml
7.	IGF-1	<25	101.00-267.00 ng/ml
8.	IGF-BP3	1.01	3.30-6.60 ug/ml

Endocrinologists and treating physicians should have a low threshold to suspect hypopituitarism in patients with history of snake bite in these regions.

REFERENCES

- 1.Kalra S, Dhanwal D, Khadijkar V. Hypopituitarism in the tropics. Indian J Endocrinol Metab. 2011 September; 15(Suppl3): S151–S153.
- 2.K.G. Srinivasan, S. Srividya, K.P. Usha Nandhini, S. Ramprabananth. Chronic Pituitary Failure Resembling Sheehan's Syndrome Following A Bite Of Russell's Viper. The Neuroradiology Journal 23: 38-41, 2010.
- 3.Burke CW: The Anterior Pituitary, Snakebite and Sheehan's Syndrome. Quarterly Journal of Medicine 74: 276, 331-333, 1990.
- 4.Antonypillai CN, Wass JA, Warrell DA, Rajaratnam HR. Hypopituitarism following envenoming by Russell's Vipers (Daboia siamensis and D.russellii) resembling Sheehan's syndrome: First case report from Sri Lanka, A review of the literature and recommendations for endocrine management. QJM. 2010;104:97–108.

Further investigations done on presentation revealed results as per Table 1 & 2.

Pituitary MRI Scan revealed an 'Empty Sella'. Hypopituitarism was diagnosed and he was immediately commenced on Hydrocortisone 10-5-5mgs. His thyroxine requirement was assessed and dosage was fixed accordingly. He was started on Testosterone gel, later on changing to Testosterone Depot injections 10 weekly. His symptoms improved significantly over a few weeks. DEXA bone scan revealed severe osteoporosis which later on improved with testosterone replacement.

DISCUSSION

The type of snake bitten determines the symptoms and signs of envenomation. Viper bites are venomous and cause altered sensorium, coagulopathy, internal bleeding, hypotension, tachycardia, renal and respiratory failure.

Earlier it was believed that snake bites led to haemorrhagic necrosis of the pituitary. But later studies have also favoured damage by intravascular coagulation which was further supported by fibrin deposition and micro-haemorrhages at autopsy. Our patient's symptoms were consistent with a viper bite. His hypopituitarism and secondary hypothyroidism remained undiagnosed leading to physical and mental suffering for more than 10yrs. We suspect that the patient developed pituitary apoplexy and chronic hypopituitarism resulting from the snake bite.

CONCLUSION

Hypopituitarism after snake bite is a relatively rare entity confined to certain regions of the world.