

Effect of insulin plant leaves on dexamethasone-induced hyperglycemia

Sir,

This is with reference to article titled “Effect of the insulin plant (*Costus igneus*) leaves on dexamethasone-induced hyperglycemia”^[1]

The material and methods section has following flaws:

- Authentication of plant leaves: As per current policy, it should be carried out from an authentic Institution and not from an Ayurvedic practitioner.
- Glibenclamide: Ideally pure compound should have been used than a commercial preparation.
- Dose and duration of dexamethasone: Dexamethasone in the dose of 10 mg/kg/day was used for studying lipid content in rats. Dexamethasone has been used as 1 mg/kg for 22 days to induce diabetes mellitus in rats.^[2] Dexamethasone 15 mg/kg/day for 24 days causes insulin resistance in 100% of rats, but induces diabetes mellitus only in 16% of rats.^[3] There is no reference for use of dexamethasone for 20 days at dose of 10 mg/kg/day.
- Glucose load: As per standard books, glucose load is 1 gm/kg PO; whereas the dose used in study is 2.5 gm/kg PO. The reference for this dose of glucose is not given.^[4]
- Timing of glucose estimation: Glucose from retro-orbital blood was measured only once at 1 hour. Ideally, it has to be at 1, 2, 4, 8 and 24 hours.^[4]
- Selection of model: Glucocorticoids induce insulin resistance and glibenclamide is used as positive control. Metformin/ Pioglitazone would have been an ideal comparator or streptozotocin-induced hypoglycemia would be an ideal model for using glibenclamide as positive control.^[5]
- Mortality of rats: Exact number of rats along with cause of death should be mentioned. Whether the insulin plant leaves caused death due to toxicity or hypoglycemia or whether steroids lead to immunosuppression and infection

and caused mortality cannot be deciphered.

The strengths and limitations of your study have not been discussed. Last paragraph is not supported by references.

Saket M. Ghaisas

Department of Pharmacology,

1st Floor, Seth GS Medical College and KEM hospital, Parel, Mumbai - 400 012, India. E-mail: drsaketghaisas@yahoo.com

REFERENCES

1. Shetty AJ, Choudhury D, Rejeesh, Nair V, Kuruvilla M. Effect of the Insulin plant (*Costus igneus*) leaves on dexamethasone-induced hyperglycemia. *Int J Ayurveda Res* 2010;2:100-2.
2. Panda S. The effect of *Anethum graveolens* L. (dill) on corticosteroid induced diabetes: Involvement of thyroid hormones. *Phytother Res* 2008;22:1695-7.
3. Ogawa A, Johnson JH, Ohneda M, McAllister CT, Inman L, Alam T, *et al.* Roles of insulin resistance and beta-cell dysfunction in dexamethasone-induced diabetes. *J Clin Invest* 1992;90:497-504.
4. Chapter K. Anti diabetic drugs. In: Gerhard VH, editor. *Drug Discovery and Evaluation. Pharmacological Assays*. 2nd ed. Berlin (Germany): Springer Publishers; 2002. p. 947-1051.
5. Okumura S, Takeda N, Takami K, Yoshino K, Hattori J, Nakashima K, *et al.* Effects of troglitazone on dexamethasone-induced insulin resistance in rats. *Metabolism* 1998;47:351-4.

Access this article online

Quick Response Code:	Website: www.ijaronline.com
	DOI: 10.4103/0974-7788.83174