

## Case Report

### Phytochemical Burns Due to a Herbal Remedy

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A 14-month-old girl from rural Tamil Nadu presented to the casualty with superficial partial-thickness burns over the perioral region, neck, and upper back. According to the parents' account, two days prior to presentation, upon the recommendation of a neighbour, the mother had ground leaves of few plants found growing in their area and had made a decoction out of it for child's cough and cold. This decoction was fed to the child using a cup. The child had resisted it resulting in spillage. There was no history of hot fluids administration. Following that the child started crying incessantly and was refusing feeds. Within few hours they had noticed redness over the perioral region and over the neck. The next day blisters and burn injuries were noticed in the same regions. When the child presented to the emergency, burn injuries

with denuded blisters were present in the perioral region and also over the neck- left lateral aspect and left upper back (Figure 1). These regions corresponded to the region where the plant extract decoction had been spilt. There were few erythematous regions in the oral mucosa. But the child did not have any drooling of saliva or hoarseness of voice. The child was accepting fluids well but was refusing solids.

The child was diagnosed to have a variety of chemical burns called phytocontact dermatitis. In view of the mucosal injuries, upper GI endoscopy was done which revealed no esophageal or gastric mucosal injuries. For the burn injuries, plenty of fluids were advised and topical silver sulfadiazine dressing was advised. The child made an uneventful recovery.

**Figure 1:** Image showing burn injuries with denuded blisters were present in the perioral region and also over the neck



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Child-rearing practices bear a significant impact on the health of infants. The November 1974 edition of *Indian Pediatrics* carried an article titled “Some infant feeding and rearing practices in a rural community in Pondicherry”.<sup>1</sup> The article concluded that traditional infant rearing practices that could adversely impact a child’s health were prevalent in the community irrespective of the socio-economic and educational status. 40 years later, with the advances in education and science, even today, the situation is the same. These traditional infant rearing practices continue in various forms in South India.<sup>2</sup> These adverse traditional beliefs and customs of people have a greater impact on the child-rearing practices pushing the evidence-based scientific guidelines to the back seat. One such common practice is the use of plant extracts for common ailments. It is important to note that such herbal remedies using regional plant extracts suggested by unacquainted individuals can be harmful. Many plant extracts can be toxic and lead to death<sup>3</sup> whereas others can cause significant morbidity like phytochemical burns.<sup>4,5</sup> Similar studies are lacking in India. Due to the popular use of herbal remedies, it is imperative to

attempt to identify such harmful plants. This would help in educating the parents. Pediatricians need to be aware of the complications caused by herbal remedies that can mimic common illnesses.

## CONFLICTS OF INTEREST

None.

## References

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## A Whole-Grain Diet Reduces Peripheral Insulin Resistance and Improves Glucose Kinetics in Obese Adults: A Randomized-Controlled Trial

The study tested the hypothesis that a Whole Grain (WG) diet reduces insulin resistance and improves glucose use in individuals at risk for type 2 diabetes compared with an isocaloric-matched refined-grain diet. The study was a double-blind, randomized, controlled, crossover trial of 14 moderately obese adults. Both diets met ADA nutritional guidelines and contained either whole-grain (50g per 1000kcal) or equivalent refined-grain. All food was provided for 8 wk. with an 8-10 wk. washout period between diets. The results suggested that the post-prandial glucose tolerance, peripheral insulin sensitivity, and metabolic flexibility (insulin-stimulated - fasting carbohydrate oxidation) improvements were greater after whole-grain compared to the refined-grain diet ( $p < 0.05$ ). Compared to baseline, body fat (~2kg) and hepatic Ra insulin resistance was reduced by both diets, while fasting glucose and exogenous glucose-meal were unchanged after both interventions. Changes in peripheral insulin resistance and metabolic flexibility correlated with improved glucose tolerance ( $p < 0.05$ ).

**Conclusion:** Whole-grains reduced diabetes risk and the mechanisms appear to work through reduced post-prandial blood glucose and peripheral insulin resistance that were statistically linked to enhanced metabolic flexibility.

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