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Bottle Gourd Poisoning: It Leaves A Bitter Taste In The Mouth!!

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Abstract
Bottle gourd, popularly known in India as lauki or dudhi, comes under Cucurbitaceae family. Botanical name bottle gourd is Lagenaria siceraria It is widely used as medicinal cure for various health conditions. However, the toxicity of bitter bottle gourd should be made aware of amongst the general population. We present the case of 73-year female, who consumed mixed vegetable juice (bottle gourd, beet root) and presented with sudden onset of repeated episodes of nausea, vomiting and hematemesis. Patient was discharged on day 7 after conservative management.
Key words: bottle, gourd, hematemesis, poisoning,

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I. Introduction

On consuming bitter juice of bottle gourd, abdominal discomfort or pain, vomiting, hematemesis, and hypotension can be the consequences.[1] Hemoconcentration, oliguria/anuria, hematemesis, hematochezia with or without loose motions are typical features of bottle gourd poising. Though a source of plenty of nutrients, bottle gourd when bitter in taste should make one weary of its toxic profile and adverse effects related to it.

II. Case report

A 73 year old married lady, came with repeated episodes of vomiting, diarrhea and hematemesis. As a part of her daily routine, she had taken some mixed vegetable juice early in morning. She is a well-controlled hypertensive. She specifically mentioned about the taste being bitter. Her abdomen was soft with stable vitals. she was nil per orally after Ryle's tube insertion. Blood workup like complete blood count, serum electrolytes, creatinine and a liver function test were in normal range. Coagulation profile was normal. Abdominal ultrasonography was normal. Endoscopy of upper gastro-intestinal tract suggested Grade A esophagitis and Pan gastritis, with no active bleed. Patient was managed conservatively. Patient was reverted after developing atrial fibrillation. Cardiac work up was normal. On day 3 patient was started on oral liquid diet followed by soft diet and discharged on day 7.

III. Discussion

Cooling properties of dudhi has been used for treatment of hypertension, flatulence, loss of weight, hepatic disease and diabetes mellitus[2].

The family of Cucurbitaceae includes cucumber, colocynth and water melon. These contain ethanolic extract which showed anti-hepatotoxic and antihyperlipidemic activity in rats[3]
Dudhi contains trace amount of cucurbitacin like types B, D, G and H which do not exceed 130 ppm.[4]These are tetracyclic triterpenoid Cucurbitacin compounds which contribute to the bitterness in squash, melon, eggplant, cucumber, pumpkins and gourds. These compounds are highly toxic to mammals. 1.2 mgcuA/Kg[2] was the lethal dose in mouse pure cucurbitacins.[5]
The binding of cortisol to glucocorticoid receptor in He La cells is inhibited by Cucurbitacin at 37 °C as per its concentration corresponding with cytotoxic activity
Type D amplifies capillary permeability which is directly related to persistent fall in blood pressure causing pleural effusion and ascites in mice.

Such compounds cause activation of Transcription-3 (STAT3) inhibitor resulting in inhibition of JAKSTAT pathway and the MAPK pathway. Environmental factors like low pH, temperature, humidity, low soil fertility and over mature vegetables aggravates levels of cucurbitacin.

IV. Conclusion

As such, no direct antidote has been developed for bottle gourd poisoning. Therefore, people as well as health care practitioners should be aware of such seldom presentation of Dudhi poisoning and recognize it early. Emphasis should be made in educating and spreading knowledge about such behavior of bitter gourd consumption.

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