Probable hypoglycemic adverse drug reaction associated with prickly pear cactus, glipizide, and metformin in a patient with type 2 diabetes mellitus.

Abstract

OBJECTIVE:
To report a case of an adverse drug reaction (ADR) in a patient with type 2 diabetes mellitus taking prickly pear cactus (PPC), glipizide, and metformin.

CASE SUMMARY:
A 58-year-old Mexican male with type 2 diabetes mellitus being treated with metformin 1000 mg twice daily and extended-release glipizide 10 mg daily was referred to the pharmacist for medication education. He denied taking herbal supplements or experiencing hypoglycemia. Two hemoglobin A(1c) values (6.8% and 6.7%) obtained over the past year demonstrated glycemic control, which was supported by his reported fasting blood glucose readings of 113-132 mg/dL. One month later, the patient reported 4 hypoglycemic events with blood glucose readings of 49-68 mg/dL, which resulted in discontinuation of glipizide. One month later, the patient denied any further hypoglycemia. During medication reconciliation he reported consuming crude PPC pads daily for 2 months for glucose control.
DISCUSSION:
Literature suggests that PPC has an effect on lowering blood glucose levels in patients with type 2 diabetes mellitus, although few identified data describe ADRs from combining PPC with other agents used in treating type 2 diabetes mellitus. A literature search of MEDLINE (through December 2009) using the search terms diabetes mellitus, prickly pear cactus, nopal, opuntia, metformin, glipizide, glyburide, glimepiride, and sulfonylurea revealed no case reports of the described ADR. One case report describing the blood glucose-lowering effect of PPC in a patient concurrently taking oral antihyperglycemics documented an episode of hypoglycemia, although the Naranjo probability scale was not applied. One patient survey discovered the most common drug-herbal interaction in the given population to be between PPC and antihyperglycemic agents, resulting in hypoglycemia. In our case, use of the Naranjo probability scale suggests the ADR to be probable. The mechanism may be due to the additive glucose lowering of the 3 agents consumed concurrently by the patient.

CONCLUSIONS:
Patients with type 2 diabetes mellitus should be routinely counseled about the use of herbal products to minimize the risk of ADRs.