Tonic drink and poor glycemic control: a forgotten issue

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Sir, the control of blood glucose is the aim in management of the patients with diabetes mellitus. There are many foods that the diabetic patients should avoid in order to achieve good glycemic control. Those include desserts, soft drinks and fruits. However, a diabetic may ingest many foods inadvertently, thus leading to poor metabolic control. Here, the authors present a case study on poor glycemic control due to a tonic drink intake. The index case was a 45 years old male diabetic patient with diabetes mellitus for the past 5 years. This patient regularly visited (trimonthly) the physician and the blood glucose control was good (blood glucose levels had been between 97–110 mg/dL and HbA1C levels had been between 5.0–5.5%). However, in the present visit, there was an unexplained poor glycemic control (blood glucose level was equal to 217 mg/dL and HbA1C was equal to 7.4%). The repeated analysis confirmed the results. In this case, the patient was examined in-depth for any behavioral change but gave no history of intake of dessert, soft drinks or fruit juices. However, there was an interesting history of drinking tonic drink (Red Bull Energy Drink) for 3 months. One bottle (100 cc) of tonic drink was drunk daily in order to derive energy and strength for driving. The patient was suggested to stop the tonic drink and the glycemic control improved dramatically (blood glucose=108 mg/dL and HbA1C=6.0%)

The tonic drink is a commonly drunk beverage in many developing countries. The labor and factory workers are the main groups who drink this beverage. There are some publications indicating the usefulness of the tonic drink. Many

papers published show that drinking tonic drink can help promote body performance [1–3]. In the index case, the main active ingredients in tonic drink included taurine, caffeine and glucuronolactone. However, there are limited reports on its adverse effects on diabetic patients. Focusing on the ingredients of the tonic drink, the glucose level is about 17.5 g in 100 cc. Indeed, this level can be considered problematic for the diabetic patient. Of interest, an important ingredient in tonic drink, taurine has effect on blood glucose as modulator of glucose metabolism. The taurine might help control the high glucose level [4]. However, in the tonic drink, the amount of taurine is low (800 mg/100 cc; basic body requirement about 1.5 g/day) and this is not comparable to the very high glucose content. In addition, the tonic drink might also induce some other unwanted side effects such as hypokalemia [5]. Hence, the use of tonic drink should be carefully recorded. Since the use of tonic drink is widely spreading in large sections of population at present, the effect of this beverage on diabetes mellitus and other metabolic disorders should not be forgotten.

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