

Tumor Recognition and Measurement from Sonography Pictures of Patients

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Fasting Ramadan is a pillar of Islam. Healthy adult Muslim must refrain from drinking and eating from dawn to sunset of everyday of this month. However there are no restriction on food or fluid intake between sunset and dawn. Sick persons, travelers and pregnant women are exempted from this duty (1). In fact, Muslims with diabetes and other chronic diseases are exempted from fasting, where fasting may lead to harmful consequences. Nevertheless, many patients insist on participating in Ramadan fasting (1). It is estimated that around 40 to 50 million of individuals with diabetes worldwide fast during Ramadan (1in 2). The population based-epidemiology of diabetes and Ramadan 1422/2001 (EPIDIAR) study conducted in 13 Islamic countries revealed that 43% of patients with type 1 diabetes and 79% of patients with type 2 diabetes fast during Ramadan (1in2).

This current study (3) had as aims to analyze the profile of patients with type 1 and type 2 diabetes fasting during Ramadan.

It included five hundred and thirty three patients of whom 29 where diabetic type 1 (5.4%). Concerning the gender, 61, 5 % of the population is male. One third of them is aged 60 years or more and the rest is between 40 and 59. The main age of type 1 diabetic patients is 43.5+/-17, 3 years and for type 2 patients, it is 54.6 +/-9, 8. 27, 6% of TD1 vs 3, 0% of TD2 are single. Less than 8% consider to have a non-satisfying socio-economic level, and 94% live in urban area. Most of the included patients have a medical insurance (95%).

Approximately ninety percent of the participants fasted previously without interruption, 16.5% have presented complications and 2.4% had never fast. Among patients only 15.4% reported episodes of hypoglycemia during the previous month of Ramadan (14.1% for TD2 and 37.9% for TD1 respectively)

It was a descriptive observational epidemiological study in type1 and type 2 diabetes treated by insulin and or oral anti diabetic drugs, older than 20 years old and who made their own decision to fast. Patients were recruited 1 to 30 days before Ramadan and followed-up up to 30 to 40 days after.

The mean duration of diabetes was 8.47 years. 32% of type 2 diabetes were treated with insulin. 7.6% of type 2 patients stopped fasting at mid-Ramadan and 6.8% at the end of Ramadan. In type1 (11,1% and 0%) stopped fasting at mid-Ramadan and at the end of Ramadan respectively. The main cause for stopping fasting was hypoglycemia. The number of hypoglycemia in type2 remained stable between before of Ramadan. No significant changes were noticed for type 1. We noted no increase of severe and nocturnal hypoglycemia. In the whole population, 27.6% had normal blood glucose ≤ 1.26 g/l before Ramadan vs 32.4% at mid Ramadan, and 35.9% at the end of Ramadan (p=0,008). No significant difference for A1C between before Ramadan and at the end of the study. Weight remained stable during Ramadan and throughout the study. Approximately 24% of the patients adapted their treatment at the beginning of Ramadan mainly by dose ranging decrease.

The strength of our study is the dietary investigation. In fact, T2D patients recorded in an agenda, their daily dietary intake for three days of the same week chosen for each period of the study. The dietary inquiry estimated the daily hydric and caloric intake, and mainly the glucose contributions. Thus, the patient answered on his caloric intakes on the basis of a pre-established list of meals, sweets and drinks. The patient selected the taken food, and specify the quantity according to the reference volume indicated on the questionnaire, by a number or an image.

Our finding showed that total water intake is more important at the beginning of Ramadan compared to the period after Ramadan. The calorie intake was significantly lower during the second period of Ramadan. These results able us to hypothesize that this amelioration is linked with an adaptation of the patients in the fast. The comparison of the macronutrient consumption before and during Ramadan, revealed a significant decrease in fat, in protein and in glucose intake during the second period of Ramadan. However, saccharide intakes were significantly higher during the period after Ramadan. This is probably connected in the consumption of candies and sweets in the period of aid el fitr.

As a conclusion, in this real life study we observe a good tolerability and safety of fasting Ramadan in diabetic patients. However, fasting should be under close medical supervision with strict attention to fluid intake, physical activity and adaptation with drug regimens. Furthermore, patients who insist on fasting need to be aware of the associated risks and be ready to adhere to the recommendations of their healthcare providers to achieve a safer fasting experience.

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