

Short Communication

Inpatient Fasting Options for People with T1d in German-Speaking Countries

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Abstract

Background: People with type 1 diabetes (t1d) are fasting with the intention to slow down or halt health deterioration or to improve their health condition. First promising results of research in this field are available. According to current fasting guidelines fasting is only recommended under medical supervision.

Objectives: To survey the number of fasting clinics in German-speaking countries and the circumstances and capacities in relation to the readiness to care for patients with t1d during fasting.

Methods: Based on the experiences of experts for fasting with t1d a structured interview guideline was developed. During the turn of the year 2020/2021 a telephone-based survey in German-speaking fasting clinics was conducted.

Results: Eight out of a total of 15 inpatient fasting clinics agreed to participate in this survey. Only one clinic accepts t1d patients as a main diagnosis and has cared for more than 50 such patients to date. Five clinics reported previous experience, with 10 or fewer patients with t1d patients as a secondary diagnosis the care of this type of patients is very different between the clinics and does not consider current research results.

Conclusions: Fasting under medical supervision in Germany for people with t1d seems to be challenging and should be enhanced using research. Furthermore, education for medical doctors in fasting clinics needs to be developed and provided.

INTRODUCTION

There are more than 360.000 people in Germany living with insulin dependent autoimmune diabetes mellitus, type 1 diabetes (t1d). Even if there is more and more technical support to manage daily challenges of insulin substitution like insulin pumps and continuous blood sugar management systems, there is still much burden of disease [1,2]. On average people with t1d still have shorter life expectancy and a high number of long-term complications, e.g. cardio-vascular diseases and a threefold higher risk of developing depression. 28% of people living with t1d have a second autoimmune disease, e.g. Hashimoto [2]. The risk of developing metabolic syndrome or type 2 diabetes among people with t1d is tremendous (around 25%) [3]. To prevent metabolic syndrome and type 2 diabetes, and other long-term complications, fasting may be effectively used [4,5]. Since t1d patients are regarded as high-risk patients in fasting expert guidelines, fasting is only recommended for t1d when accompanied by an experienced fasting doctor within a stationary setting [6]. Usually, fasting in t1d is currently not recommended by diabetologists. Even experienced fasting doctors within a clinical setting say: "We do not believe in fasting

for t1d (...). Types of diabetes with impaired beta cell function already have a high risk of ketoacidosis. If you also have fasting-related ketonemia, the risk is far too high. It is not without reason that we do not hold vegetable days for type 1 and 3c diabetics." (director of hospital in Germany, offering fasting as member of ÄGHE, personal communication, 2022/09/22). However, people with t1d are looking for opportunities to fast. A pilot study, proving the principal possibility, was able to show that fasting in T1D can be safe and helpful, when carried out within a research context under supervision [7]. Other research could show persuading results as well [8-10]. Whereas fasting is recommended for several diseases [6,11], people with T1D have difficulties finding places where medical doctors are willing to support them during fasting. Hence, some of the patients already fast on their own [12]. To provide T1D patients the opportunity to use fasting under medical supervision as a safe and healthy intervention to improve their health-related outcomes, we investigated the opportunities currently offered by fasting clinics.

OBJECTIVE

Our aim was to provide an overview of the care of people

with t1d in fasting clinics in German-speaking countries. Affected people who want to use fasting to improve and maintain their health, told us about the challenges in finding a fasting clinic that accepts people with t1d to fast. Our hypothesis was that most fasting clinics do not allow patients with t1d to fast because diabetologists tend to contradict it [7]. Therefore, strived to find out whether fasting clinics accept people with t1dm and how fasting is structured for t1d patients in fasting clinics (e.g. preventing ketoacidosis, adjusting insulin dose). Particular attention was paid to possible termination criteria and the treatment of complications during the fast.

MATERIAL AND METHODS

A questionnaire using closed questions was developed using experiences of fasting in t1d and research results. Directions of fasting clinics (lent clinics) were members of the medical society for therapeutic fasting in Germany (ÄGHE). All of them were contacted by sending an email asking for permission to send the questionnaire or to get the opportunity to answer the questions during a telephone conversation. Clinics, offering fasting and being members of ÄGHE in German-speaking countries (including Switzerland and Austria) are included. Wellness hotels without medical care (e.g. "fasting hotels") are excluded. Patients aged < 18 years and a diagnosis of t1d for < 1 year were exclusion criteria in all the participants of this survey. Survey period was December 1st, 2020 – January 31st, 2021

RESULTS

We could contact all clinics listed as members of ÄGHE, meaning 15 fasting clinics. 8 took part in the survey (53.3%) (Table 1). 5 clinics did not answer, two clinics did no longer work as a fasting clinic with medical super-vision and so they were also excluded. Only one clinic has cared for more than 50 patients with t1dm to date. Five had limited experience with t1d patients, having occasionally accepted patient with t1d, mostly as a secondary diagnosis behind an accepted fasting diagnosis. All of these have cared for 10 or fewer t1d patients. Clinics had clear exclusion criteria. All of them does not accept fasting for

patients with t1d when patients are suffering of eating disorder, addictions, or psychotics. 4 clinics exclude patients with renal failures or hepatic insufficiency. An age below 18 or a missing hyperglycemia sensitivity might be an exclusion criterion as well (Table 2).

Clinics involving patients with type 1 diabetes in fasting, supervised daily blood sugar management and additional ketone measurements and followed a concept how to prevent ketoacidosis and how to care for people with nausea. No further adverse events have been reported (Table 3). The fasting clinics we contacted were applying the Buchinger fasting protocol: Buchinger and his followers developed a multidisciplinary and multimodal treatment concept for inpatients, centered on fasting therapy, in which physiotherapy, nutrition, mind-body methods, and psychotherapy as well as physical activity are combined within a complex health education program. Aspects of the religious fasting tradition have remained fundamental components within the concept: the dimension of mindfulness and social group support [6].

DISCUSSION

In relation to other conditions, the care of patients with t1d is quite different. Surprisingly, some fasting clinics have had multiple experiences with patients with t1d. Experience shows that fasting is basically possible for t1d patients – if there is a certain level of training and compliance on the part of the clinicians and the patients. Some clinics have strict admission indications, while others make an individual assessment of patients. The clinics also differed in the way they care for their patients. The variable picture of care is most likely due to the lack of fasting guidelines for t1d. The current therapy concepts have been developed based on medical expertise and experience.

CONCLUSION

In Germany fasting under medical supervision for people with t1d seems to be difficult. The existing evidence seems to be persuading. Fasting might be possible if considering the results of existing research and the experiences of experienced fasting

Table 1: Fasting clinics included in sample

Table with 6 columns: Clinic Nr., Type of facility (inpatient clinic), Places, Type of fasting method, Is fasting for people with T1D possible?, Amount of patients per year. It lists 8 different fasting clinics with their respective details.

Table 2: When patients with t1d are excluded from fasting

Clinic	Exclusion criteria								
	Eating disorder	Addictions	Psychotics	Missing Compliance	Hepatic insufficiency	Renal failure	Hypoglykemy insensitivity	Age < 18 year	Diagnosis < 1 year
1	X	X	X	X					
2	X	X	X		X	X	X		
3	X	X	X		X	X		X	X
5	X	X	X		X	X			
8	X	X	X	X	X	X		X	

Table 3: How to handle fasting t1d patients during fasting

	How do you prevent diabetic ketoacidosis?	Which vital parameters were measured?	What do you recommend in case of nausea?	What do you recommend regarding sports and exercises?
1	Blood glucose measurements (3x daily and once per night) urine ketone 3x during fasting time Adaption of Insulin, daily consultations	RR + Pulse daily, current body temperature	1/2 glass apple juice	Exercise 3x daily, 1x relaxation according to preference and training condition
2	At least 3x blood sugar per day., possibly 2 x during night, 2x fasting lab (with ketone in urine), insulin adjustment, mixed measurement, daily consultation, 3x urine pH	2x RR + Pulse	Blood glucose measurements, physical examination, Iberogast-drops, gruel, dextrose, honey, juice	generally permitted, individually assessed by physician
4	4x blood glucose per day, daily ketone i.S., insulin adjustment, 2 x consultation per week (more if necessary)	3x per week RR + Pulse, weight	blood glucose measurement, orange juice, honey, dextrose	generally permitted, patients decide depending on stress group
5	Patients are measuring themselves at least 3x, daily consultation, insulin adjustment	Patients doing their own daily RR + Pulse	blood glucose measurement, honey or Jubin, juices	should participate according to training condition, restrained in the event of derailment or wrongly adjusted, 10 hours during weekend
8	Ketone content in urine, sometimes Ketostix, insulin dose adjustment, mixed blood glucose measurement, daily control	ECG on first day, RR + Pulse,	blood glucose measurement, apple juice	generally permitted, decision together (Blood glucose level needs to fit, preferably >100 mg/dl)

patients with t1d. A program for further education for fasting clinics has been developed and piloted and can be offered in further fasting clinics. Based on existing research, patients with t1d should be provided the opportunity to fast under medical supervision as a safe and healthy intervention to improve their health-related outcomes. Ideally, this should be done in the frame of research projects to further increase knowledge on the ideal type of fasting and long-term benefits.

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