



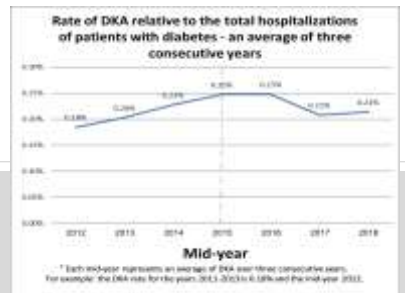
INTRODUCTION

Sodium-Glucose cotransporters 2 inhibitors (SGLT2I) are an important, relatively new tool in the treatment of diabetic patients introduced in Israel since 2015. Their benefits include improvement of glycemic control and reduced cardiovascular morbidity and mortality. Yet, post-marketing Diabetic Ketoacidosis (DKA) was noticed and recognized as a rare side effect related to this class of drugs. Reported incidence in RCTs was between 0.52-1.41/1000 persons years and 1.69-1.83 in real world studies.

OBJECTIVES

To investigate the incidence of hospitalizations due to DKA after the implementation of SGLT2I (since 2015) among patients with diabetes.

Figure 1



METHOD

We conducted a retrospective study. Medical records of all patients, >18 hospitalized at Meir Hospital with a diagnosis of DKA from 2011-2019 were collected. DKA incidence was compared between 2011-2014 and 2015-2019. Demographic and clinical data of patients were collected.

RESULTS

During 2011-2019 there were 197 hospitalizations due to DKA. The incidence of hospitalization due to DKA was stable during 2011-2019 (figure 1). Only 5 (2.53%) patients were treated with SGLT2I. Four cases of DKA were related to the use of SGLT2I (table 1). DKA Hospitalizations in 2011-2014 included more type 2 patients, and more severe clinical course compared to 2015-2019.

Table 1: Baseline characteristics of the patients hospitalized with DKA between 2011-2014 and 2015-2019

		Admission Groups			p-value
		DKA 2011-2014	DKA 2015-2019	Total	
	age (SD)	(19) 49	(20) 51	(19) 51	
gender	male (%)	(51.9) 40	(42.5) 51	(46.2) 91	
diabetes type	1 (%)	(54.7) 41	(76.5) 91	(68) 132	0.02
	2 (%)	(45.3) 34	(23.5) 28	(32) 62	
etiology of DKA	first diagnosis of DM (%)	(15.6) 10	(6.7) 6	(10.5) 16	
	febrile disease (%)	(42.2) 27	(47.2) 42	(45.1) 69	
	insulin pump failure (%)	(12.5) 8	(12.4) 11	(12.4) 19	
	change of diet (%)	(3.1) 2	(3.4) 3	(3.3) 5	
	stop/lowering dose of insulin (%)	(34.4) 22	(31.5) 28	(32.7) 50	
	SGLT2I treatment (%)	(0) 0	(4.5) 4	(2.6) 4	
	biochemical parameters	bicarbonate (SD)	(6.0) 12.5	(6.9) 14.9	(6.6) 13.9
glucose (SD)		(232) 496	(235) 408	(237) 442	0.01
creatinine max (SD)		(1.4) 1.7	(1.0) 1.3	(1.2) 1.5	0.047

There was no increase in the incidence of hospitalizations due to DKA after 2015, the year of the implementation of SGLT2I. There were more type 1 DM-related DKA in 2015-2019 but the clinical course was more severe in 2011-2014. Although SGLT2I related DKA is rare, caution is needed in prescribing these medications and awareness to this side effect is required.

CONCLUSIONS