PREVELANCE AND RISK FACTORS OF RECURRENT DIABETIC KETOACIDOSIS IN ADULT TYPE 1 DIABETIC PATIENTS

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Introduction

- Diabetic ketoacidosis is an acute life-threatening complication of diabetes. DKA is defined clinically as an acute state of severe uncontrolled diabetes associated with ketoacidosis that requires emergency treatment with insulin and intravenous fluids.
- DKA accounts for 14% of all hospital admissions of patients with diabetes and 16% of all diabetes-related fatalities.
- Almost 50% of diabetes-related admissions in young persons are related to DKA.
- The overall mortality rate for DKA is 0.2-2%, with persons at the highest end of the range residing in developing countries.
- Research shows that recurrent diabetic ketoacidosis rates are dependent on medical services and socioeconomic circumstances of the adolescents.
- Incidence of recurrent DKA varies across different countries, with a recent systematic review in adult populations with Type 1 diabetes indicating a range between 8–56 persons per 1000 years.

Aim of the work

- Evaluate the prevalence and risk factors for recurrence of DKA in adult patient with type 1 diabetes presenting to DKA critical care unit of diabetes and metabolism unit in Alexandria Main University Hospital.

Patients and Methods

Patients: This cross sectional study was conducted over the period of 9 months. Patients included in the study were recruited from DKA critical care unit of diabetes and metabolism unit, internal medicine department in Alexandria Main University hospital.

Methods: All the included patients was subjected to:
1- full history and physical examination
2- full lab investigations were done including Hb A1c

Results

Table : Distribution of the studied cases according to different studied parameters

	No.	%
Micro vascular disease complications		
No	20	14.9
Yes	114	85.1
Neuropathy	84	62.7
Retinopathy	82	61.2
Nephropathy	22	16.4
Macro vascular disease complications		
No	127	94.8
Yes	7	5.2
IHD	4	5.2
Stroke	2	1.5
Vascular	1	0.7
Duration of DM		
Min. – Max.	1.0 – 36.0	
Mean ± SD.	9.50 ± 6.35	
Median (IQR)	8.0 (5.0 – 13.0)	
Insulin regimen		
Basal bolus	65	48.5
Mixed mix	69	51.5
Injection technique		
Syringe	64	47.8
Pen	70	52.2
Rotation of injection site		
No	38	28.4
Yes	96	71.6
Lipodystrophy		
No	119	88.8
Yes	15	11.2
Regular glucose monitoring		
No	110	82.1
Yes	24	17.9
Health insurance		
No	10	7.5
Received DM health education		
No	117	87.3
Yes	17	12.7
Recurrent hypoglycemic attacks		
No	40	29.9
Yes	94	70.1
Received DM health education		
No	117	87.3
Yes	17	12.7
Precipitating factor for current attack		
Unknown	1	0.7
Missed dose	101	75.4
Infection	32	23.9
UTI	21	15.7
Chest infection	7	5.2
Tonsillitis	3	2.2
Dental abscess	1	0.7

Figure: Distribution of the studied cases according to different studied parameters

Conclusion

- Omission of insulin dose is a major risk factor for recurrence of DKA, recurrent hypoglycemic attacks. The main risk factors for DKA recurrence are lack of health education and noncompliance on regular glucose monitoring. HbA1c levels are positively