



## Clinical Profile of Diabetic Ketoacidosis in Rayalaseema Region

### KEYWORDS

diabetis, diabetic ketoacidosis, infection.

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### ABSTRACT

**BACKGROUND:** Diabetic ketoacidosis is one of the acute complications of diabetes. DKA which is thought as hallmark of type 1 DM is also common in type 2 DM due to various reasons.

**OBJECTIVE:** Our study is highlights the clinical profile, precipitating factors and clinical outcome in the patients with diabetic ketoacidosis.

**METHODS:** This is a prospective study conducted over a period of 2 years in RIMS, Kadapa. Clinical profile of 70 patients with DKA were collected who admitted in the emergency department and analysed.

**RESULTS:** Out of 70 patients 14 were type 1 DM and 56 were type 2 DM. Mean duration was 10years. Nausea and vomiting is the most common presenting symptom of 60% of patients. 59% of the patients precipitating factor is found to be infection. Mortality in our study is 15%.

**CONCLUSION:** DKA which is acute complication of diabetes has heterogenous clinical presentation. Infection is the most common precipitating factor for DKA

### INTRODUCTION:

DKA is acute complication of diabetes. Most common in type 1 and also seen in type 2 DM. Early diagnosis and treatment was important in managing DKA to prevent mortality. Precipitating factors for DKA are infections, inadequate insulin administration, infarction (cerebral, coronary, mesenteric, peripheral), drugs (cocaine), pregnancy

DKA results from relative or absolute insulin deficiency combined with hormone excess (glucagon, catecholamines, cortisol and growth hormone)<sup>1</sup>. Ketosis results from a marked increase in free fatty acid release from adipocytes with a resulting shift towards ketone body synthesis in the liver. DKA is precipitated by increased insulin requirement as might occur during an illness. Patients using short acting insulins are at increased risk of DKA since even a brief interruption in insulin delivery quickly leads to insulin deficiency.

### MATERIALS AND METHODS:

This is a prospective study done at government general hospital, RIMS, Kadapa over a period of two years i.e., from august 2013 to july 2015. Total 70 patients of both type 1 and type 2 DM who was admitted with DKA were studied

### INCLUSION CRITERIA<sup>2</sup>:

- Patients with blood glucose > 250 mg/dl
- Arterial pH < 7.3
- Serum bicarbonate < 15 meq/ltr
- Ketones in the urine

### EXCLUSION CRITERIA:

- Patients on steroids
- Endocrine disorders like cushing syndrome
- Acromegaly were excluded

Patients demographic details were collected, their history was collected, physical examination was done, and their clinical profile, precipitating factors and clinical outcome was analysed

### RESULTS:

We studied clinical profile of 70 patients with DKA. Out of which 14 patients belong to type 1 and 56 patients belong to type 2 DM. Among them 40 were males and 30 were females. Out of 70 only 16 patients were on regular treatment, 44 were on irregular treatment and 10 were not on treatment because diabetes was detected denovo in those 10 patients. Age and sex distribution were studied.

**Table 1: distribution of age in the studied population**

Age (yrs)	No. of patients	Frequency
20-30 years	22	31.4%
31-60 years	48	68.6%

Majority of the patients were in the age group of 31-60 years in whom type 2 DM were more in number

**Table 2: distribution of sex in the studied population**

Sex	No of patients	frequency
Males	40	57.14%
Females	30	42.8%

Majority of patients were males whose frequency is 57.14%

**Table 3: symptomatology of DKA patients**

Symptoms	No. of patients	percentage
Nausea and vomiting	42	60%
Pain abdomen	36	54.2%
Hypotension	10	14.2%
Kussmals breathing	18	25.7%
Polyuria	22	31.4%
Dehydration	14	20%
unconsciousness	22	31.4%

Majority of the patients presented with nausea and vomiting with 60%. which is next only to pain abdomen with 54.2%.

**Table 4. precipitating factor in diabetic ketoacidosis patients**

Precipitating factor	No. of patients	Percentage
Infection	59	81.42%
Non compliance to treatment	43	61.42%
Others	10	14.2%

The most common precipitating factor was found to be infection with 81.42% followed by non compliance to treatment with 61.42%

**DISCUSSION:**

In our study prevalence of type 2 DM was more than type 1 DM. Due to poor compliance to treatment and poor glycemic control can be a potential for any precipitating factor to land the patient into diabetic ketoacidosis. In a similar study<sup>3</sup> which was conducted in manipal hospital prevalence of type 2 DM was high in DKA patients and indeed that study also had infections as the most common precipitating factor for DKA.

Mean age of the patients was 52 years which is favouring to type 2 DM to cause DKA than type 1DM in India. Our study results also near to a study done by Kretz et al<sup>4</sup>, which states that some patients were diagnosed denovo with DKA as a presenting complaint.

Mortality in our study was 15% which is near to a study done by Adhikari et. al.<sup>5</sup>, whose mortality was 16.3%. this shows that DKA in type 2 DM is more a severe disease than was shown to be. Delay in reaching to hospital and severity of acidosis and dehydration must be considered as a major risk factors for the higher mortality rate in our study

**CONCLUSION:**

DKA is considered as one of the acute complications of type 2 DM. nausea and vomiting which is considered as most non specific symptoms must be given utmost importance in DM patients as it may be the presenting symptom of DKA. Patients must be educated about the compliance to treatment as noncompliance may land the patient into DKA.

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