Characteristics of newly diagnosed children with Type 1 diabetes - DKA versus Non- DKA presentation

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BACKGROUND
Diabetic Ketoacidosis (DKA) is a common presentation of newly diagnosed Type 1 Diabetes.
There is a worldwide variation in the rate of DKA as first presentation of Type 1 diabetes of 16% to 67%.
In the UK, the average frequency of DKA as first presentation is 25%.
DKA is a leading cause of mortality in children with type 1 diabetes.

AIMS / OBJECTIVES
To compare the demographic and clinical characteristics of DKA versus non-DKA presentations in children <16 years at diagnosis of T1DM.

METHOD
Retrospective audit covering a 30 month period; from January 2013 to June 2015 in a single paediatric diabetes unit.

Results
- Total number of new T1DM cases: 36
- DKA presentation: 15 (42%)
- Non DKA presentation: 21 (58%)

Background data
Sex
- Females 56%; males 44%
- Median age was 8 years
- 40% presented in mild DKA, 33% presented in moderate DKA, and 20% presented in severe DKA
- 40% of males presented in DKA versus 43% of females

Age
- Peak age of diagnosis: 6 years
- 100% of children at 2 years presented in DKA
- There was a trend for younger children to present in DKA
- 66% of those aged 0-5 years presented in DKA compared to 29% and 46% in 5-9 years and 10-16 years respectively

Ethnicity
- 59% were white British
- 100% of children with African ethnicity presented in DKA
- Compared to 33% of White British ethnicity (p=0.0261)

Place of diagnosis
- More children were diagnosed in hospital rather than by the referring GP

Presentation
- Commonest symptoms were polydipsia (93%), polyuria (86%), and weight loss (66%) and were similar in both groups.
- Abdominal pain which was more common in the DKA+ group (33% vs 4.7%), (p=0.059)

CONCLUSIONS
- Rate of DKA at presentation of T1DM in our patients was higher than that reported in the literature.
- DKA was more common in the Younger age group and African ethnicity.
- Cluster of symptoms were similar but abdominal pain was more common in DKA.
- Length of stay was significantly longer in patients with DKA.
- More patients were diagnosed in hospital than in primary care.
- There is a need to increase awareness among the public and primary care health professionals to aid early diagnosis and reduce the burden of DKA.