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Editorial

Diabetic ketoacidosis as the onset of type 1 diabetes in children

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List of abbreviations:
Diabetic Ketoacidosis (DKA)

Diabetic ketoacidosis (DKA) at the onset of type 1 diabetes is an emergency for the pediatrician. The younger the child, the more difficult is the clinical management of DKA.

Epidemiological data show that the incidence frequencies of DKA range from 13% to 80% (1). In Great Britain the incidence rate is 23% (2) and has remained unchanged over the last 20 years (3). In Italy, the incidence is about 40.3% with a frate of 29.1% for mild and moderate forms and 11.2% for severe forms. The severe forms are those that are more frequent in children less than 5 years of age (4).

Precisely a smaller age at onset is more alarming; in fact younger children (<5 years) have a higher risk of mortality and long-term morbidity (5, 6).

For this reason, the main aim is to make a diagnosis as early as possible through targeted interventions, such as diabetes awareness campaigns in association with parents and health professionals in order to highlight the symptoms of the disease precociously and reduce the risk of acute and chronic complication.

To date, several scientific reports have focused the problem, trying to underline the correct strategies.

The report of Iovane et al (published in the present issue of Acta Biomedica, page 67) is very interesting and the principal aim was to evaluate the prevention of ketoacidosis in young children (<5 years) compared to an older group (6-10 years), with the identification of premonitory clinical symptoms.

Interestingly, in the group of younger children compared to the other group, parents were totally unaware of the presence of diabetes awareness campaigns, which resulted in a higher rate of mild/moderate (65%) and even severe ketoacidosis (22%) at the onset of diabetes.

Therefore, in the younger child the possibility of having additional symptoms such as weight loss, the continuous use of diapers and polyuria must be taken into account as warning signs of a possible onset of diabetes and preventing diabetic ketoacidosis.

A further scientific contribution was offered by Parma School with the paper of Cangelosi et al (7) who developed an information campaign on diabetic ketoacidosis (DKA) based on the realization of posters and flyers in the pharmacy and at the pediatricians office, of a telephone number directly connected to the pediatric diabetes and radio announcements after the debut of a couple of clinical case.

The campaign lasted about 4 years gave its results, a time useful to reduce the number of severe ketoacidosis.

The paper of Deylami et al (8) is very interesting, in fact the Authors reviewed all the awareness campaigns on diabetic ketoacidosis that have been carried out in Europe. Almost all studies evaluated the incidence rates of DKA before and after the awareness campaign over a long period (from 1 to 8 years); the campaignes were carried with creation of poster and campaign on television.

Ahmed et al (9), using posters, information leaflets and educational program with professional nurses and health workers, showed that in Saudi Arabia the awareness campaign, over a 4-year period, led to a decrease in the DKA frequency of 6 %.

Much more significant was the DKA decline in Turkey, in fact, Ucar et al (10) , always with the use of posters, demonstrated a decrease of 24.4%.

In Italy, Vanelli et al (11) showed a 65% decrease in the incidence of DKA in 8 years, with a campaign based not only on the use of posters but also on a educational program, with also glycemic control.

A similar situation was highlighted by King et al (12) in Australia where the risk of ketoacidosis after the campaign was reduced by 64%.

In contrast, Lansdown (13) and Fritsch (14) do not demonstratd in Wales and Austria, respectively, a decrease of the frequency of DKA after an awareness campaign based on the use of poster, TV and radio broadcasts, educational programs provided by school and doctors.

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