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Association of Breath Holding Spells with Iron Deficiency Anemia in Children.

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Abstract:

Objective: The main aim of this study was to find the correlation between breath holding spells and iron deficiency anemia in children.

Study Design: Cross sectional

Place and Duration of Study: This study was carried out in a duration of 10 month from June 2018 to March 2019 in Pediatrics department of Services hospital Lahore.

Patients and Methods: Total of 95 cases were selected for the study which presented in the outdoor of services hospital with breath holding spells. Mean age was between 6 to 60 months. Detailed history and examination was done. Informed consent was taken from all the parents. Blood samples were taken and sent to a reliable laboratory for CBC and ferritin levels.

Results: In our study the number of children between 6-36 months of age were 61% whereas between 37-60 months were 39%. Among these females were 41% and males were 59%. Incidence of anemia in children with breath holding spells was found to be 51.6%.

Conclusion: High incidence of iron deficiency anemia is seen children with breath holding spells and it can be easily treated with simple and cheap iron preparations available in market.

Keywords: Iron deficiency anemia, breath holding spells, CBC,

Introduction: Breath holding spells are particular manifestations of anger and frustration and are age related. Care givers and parents are usually frightened by it. Emotional disturbances or mild trauma can lead to the onset of these spells. When this occurs child cries for a long time and at the end he holds his breath for several seconds which decreases the oxygen in body leading to pale or blue discoloration of baby. Clonic or tonic movements can also be seen. Due to instability of autonomic system there is inhibition of respiratory system which causes these cyanotic spells. Sudden asystole or bradycardia causing pale spells results due to hyper stimulation of Vagus nerve. These attacks usually settle with time but they can be the initial symptoms of paroxysmal rhythm anomalies and QT syndrome. Status epilepticus or syncope can also occur.

Multiple factors are responsible for causing breath holding spells. The most important is anemia related with iron deficiency which decrease oxygen to brain leading to these spells. Birth sequence, father's age, zinc deficiency, positive family history are among other risk factors.

In developing countries like Pakistan, deficiency of iron is the leading cause of iron deficiency anemia. Even in the absence of iron deficiency anemia, iron supplements should be considered. Implantation of pace maker and piracetam are used to successfully treat the refractory cases of these spells.

The aim of our study was to find the association of iron deficiency anemia related breath holding spells in children presented in services hospital Lahore.

Patients and Methods: Total of 95 cases were selected for the study which presented in the outdoor of services hospital with breath holding spells. Mean age was between 6 to 60 months. Detailed history and examination was done. Informed consent was taken from all the parents. Blood samples were taken and sent to a reliable laboratory for CBC and ferritin levels.

Results: In our study the number of children between 6-36 months of age were 61% whereas between 37-60 months were 39%. Among these females were 41% and males were 59%.

Mean hemoglobin levels noted were 9.7 g/dl while mean value of serum ferritin level was 10.47 mg/dl.

Incidence of anemia in children with breath holding spells was found to be 51.6%.

According to age distribution, breath holding spells related iron deficiency anemia was seen in 49 cases. Among these 6-36 months of age patients were 30 whereas 37-60 months were 19. Among these 25 were male patients and 24 female patients.

Discussion: 6 to 18 months of age is the most frequent in which breath holding spells occur. Sometimes a child holds his or her breath for so long that he might become unconscious making parents worried. According to different studies, hypoxia caused by decreased air entry results because of iron deficiency anemia. Association of iron deficiency anemia with breath holding spells was found to be 56.67% in a study carried out in Rawalpindi which is in comparison with our study. Serum zinc and iron were evaluated by Handan Gençgönül and his colleagues in one study showing that anemia was seen in 56% of patients with breath holding spells. Another study was conducted by Rahul Jan and his colleagues in which they studied the relation between iron supplementation and breath holding spells without discrimination between their anemic statuses. They found that breath holding spells can be treated with simple iron replacement regimens available in market. Children in which there is no anemia but there are breath holding spells even they respond good to iron supplementation.

Conclusion: High incidence of iron deficiency anemia is seen children with breath holding spells and it can be easily treated with simple and cheap iron preparations available in market.

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