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Scientific and Humanitarian Goals of Medical Carrier

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Editorial

Through the medical services in the gastroenterology and liver disease department in the Children Welfare Teaching Hospital Baghdad/Iraq, we come across many problematic cases and inborn errors of metabolic causes need to be excluded.

Iraq which is one of the Middle East developing countries which was torn apart by wars and political and ethnic conflicts, with population estimated to be of 37.5 million, high rates of consanguinity and inter caste marriages have resulted in a substantial burden of inherited metabolic disorders. Inborn errors of metabolism (IEM) are genetically inherited diseases, may be individually rare, together IEM constitute a considerable percentage of children presenting with acute health issues. Diagnosis and follow up of IEM had been integrated in several developed countries basic health care packages. This service is still limited in many developing countries including Iraq [1].

There are inadequate numbers of appropriately trained clinicians regarding the inborn errors of metabolism (IEM) field, Ill-equipped laboratories, lack of biochemical skills (to make the proper interpretation of lab results and the clinical manifestations of patients). The health care infra-structures are unable to support these services.

Through personal efforts in 2009, we started a program with the help of Saint Josef University, newborn screening test lab, in Lebanon. Sending blood samples on filter papers, blood samples were taken from patients attending the Children Welfare Teaching Hospital and Al Emmamain Al Kadhumain Teaching Hospital in Baghdad through the DHL services to diagnose inborn errors of metabolism.

Among 1758 samples analyzed within 3 years period, two hundred twenty four cases were identified and confirmed to have IEM (12.7%). The metabolic disorders diagnosed were-amino acid disorders: 86 (4.9%), mitochondrial disorders (fatty acids oxidation disorders and organic acidemias): 36 (2%), glucose 6phosphate dehydrogenase deficiency-66 (3.75%), carbohydrate metabolism disorders were 31 cases: (1.76%), and endocrine disorders (Congenital hypothyroidism) were 5: (0.2%).

One hundred seventy four (9.8%) cases had positive consanguineous marriage between father and mother, while 132 (7.5%) cases had positive history of a similar condition in the family or history of sudden infant death [1] concluding that the amino acids disorders, fatty acids oxidation disorders and G6PDD and galactosemia are the most common metabolic disorders in the studied sample. On that base, and evaluating many other studies [2,3], the most prevalent and treatable diseases were chosen to set the newborn screening test program for the first time in Iraq in 2013.

Newborn screening test program included three diseases-hypothyroidism, phenylketonuria (Figure 1) and galactosemia.

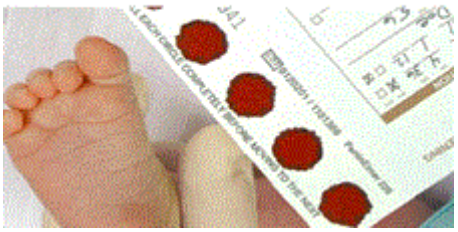

Figure 1: Screening test - Phenylketonuria.

Sending samples of filter paper as well to Hamburg through the same route for the sake of diagnosing lysosomal storage diseases specially Mucopolysaccharidosis, Niemann-Pick disease, pompe and Gaucher disease. Many cases were diagnosed since then and enzyme replacement therapy (ERT) was started for patients with Gaucher disease and Mucopolysaccharidosis and Pompe disease.

Facing the problem of the unstable and hectic availability of the ERT due to the financial hardship through which the country is going, and the unstable security situations due to the war and ISIS attacks in governorates under fire to which many patients belong, making it impossible to have an access to Baghdad. Yet very nice and promising results were seen among patients (Figure 2) especially those with gaucher disease improving and changing their life style [4].

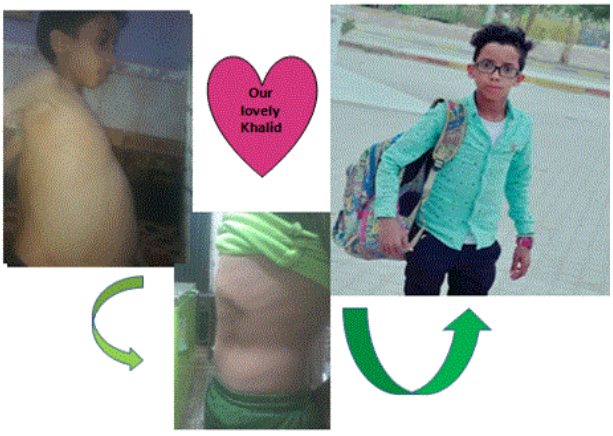

Figure 2: Example for successful ERT.

Efforts are ongoing to maintain the drug availability, mean while many genetic researches are under processing to detect the types of mutations of these diseases.

Acknowledgement

On the behalf of the IEM medical team, thanks to all the kind hearted people, consultants, postgraduate and junior doctors, medical staff and nurses who shared the patients and families their pain and worries and their outcome of happiness and hope.

Dear all in the Journal of Clinical Research, thank you.

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