The Annals of Saudi Medicine welcomes letters from readers that comment on recent articles published in the journal. They should be received within six weeks of the publication of the article and be not more than approximately 500 words. Send letters to jtcathay@kfshrc.edu.sa. They should not be submitted as manuscripts on the journal's online manuscript submission site.

Re: EIF2AK3 Mutations in Patients with Wolcott-Rallison Syndrome

To the Editor: I read with interest the report of a new case of Wolcott-Rallison syndrome by Marafie et al¹ and would like to further highlight the molecular basis of this syndrome.

Wolcott-Rallison syndrome (WRS) is a rare autosomal recessive disorder characterized by early-onset permanent diabetes mellitus, multiple epiphyseal dysplasia, growth retardation, and variable other systemic manifestations. Delepine et al² mapped WRS to chromosome 2p12, and identified in two consanguineous families with WRS two mutations in EIF2AK3, the gene encoding the eukaryotic translation initiation factor 2- α kinase.³ The mutations segregated with the disorder of each of the families. These results provided evidence for the role of EIF2AK3 deficiency in WRS at the molecular level. They describe a homozygous missense serine 877 proline mutation of EIF2AK3 gene in a 5-year-old girl with WRS, and found that the mutated kinase was unable to phosphorylate its natural substrate, eukaryotic initiation factor 2 α (eIF2 α). A comprehensive clinical, genetic, and functional study of EIF2AK3 mutations in WRS was recently published.⁴

Twelve families with WRS, totaling 18 cases were studied. With the exception of one case, all patients carried EIF2AK3 mutations resulting in truncated or missense versions of the protein. The patient with no EIF2AK3 involvement did not have any of the variable clinical manifestations associated with WRS, suggesting both genetic and clinical heterogeneity between this variant form of WRS^{5,6} were included in this study;⁴ two different EIF2AK3 mutations were identified in these families [560GA and del (184bp) in exon 15/intron 15]. Another novel EIF2AK3 mutation was recently described in a child with WRS.⁷

In summary, EIF2AK3 mutations have been identified in at least 18 WRS cases from 12 families. This demonstrates that EIF2AK3 gene plays a major role in the pathophysiology of WRS. In addition, EIF2AK3 kinase activity appears to be essential for pancreatic islet cell function and bone development in humans.

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Reply

To the Editor: We thank Dr. Doris Taha for her valuable updating of the molecular genetics information for Wolcott-Rallison syndrome, and the EIF2AK3 gene mutations found recently in further cases from different ethnic families.

Our patients' ancestors are originally from Arabian peninsula/Saudi region, therefore the possibility of carrying a mutation in EIF2AK3 gene is high since he also expressed the majority of the disease manifestations.

Finding gene mutations in affected families would help in offering genetic screening options for their members and encourage the geneticist and these individuals to decide together which is the best approach for them in future pregnancies; either to arrange for prenatal diagnosis or to offer PGD (pre-implantation genetic diagnosis) especially when termination of pregnancy is prohibited in some cultures and taking into account that cousin marriages are popular in the Arabic region.

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Isolated double gastric rupture as a result of blunt abdominal trauma

To the Editor: Rupture of the stomach due to blunt trauma occurs infrequently and is associated with a high mortality. In reviews, the reported occurrence ranges from 0.02% to 1.7%.^{1,2,3,4,5,6} Only 67 cases have been reported in the literature since 1930. Yajka et al⁷ presented two cases and reviewed an additional 35 cases from the literature from 1930-1975. They reported a high rate of infectious complications and a mortality of 47%. Siemens and Fulton⁸ reported six cases and reviewed the cases presented by Yajka et al.⁷ They stressed the high mortality and morbidity associated with this injury. Semel and Fritelli have interpreted data in the literature as indicating an increase in the incidence of gastric rupture in the pediatric population.⁹

Recently, a child with double gastric rupture caused by blunt trauma was admitted to Mohayl General Hospital, Mohayl, in the Asir region. Knowing the infrequency of this sort of injury and especially of double rupture, we review of our experience with this injury. A 13-year-old boy who fell from his bicycle shortly after lunch (with a full stomach) was brought to our emergency department after about six hours after the accident. Clinical examination showed peritonitis so an emergency laparotomy was done after adequate resuscitation. On exploration about one and half liter of food and blood-mixed fluid was found. The stomach was ruptured at two places, in the anterior wall upper third and in the posterior wall upper third. The posterior wall was approached by opening the lesser sac. The upper abdominal muscles were

also crushed, resulting in muscular haematoma. After copious irrigation, both stomach perforations were repaired in two layers. The necrosed abdominal muscle was debrided and the abdomen closed after placing tube drains.

Post-operatively, the patient's fever continued and he developed bilateral pleural effusion with pneumonitis. The upper part of the wound also showed dehiscence. Due to continuous fever and toxicity he was re-explored on the 15th day and multiple intra abdominal abscesses were drained. The abdominal was closed with tension free sutures. The fever settled and his overall condition improved and he was discharged on the 25th day.

A history of a full stomach or recent meal is common with this injury, as in our case. A full stomach is important in the problem of gastric rupture because the empty stomach is much less likely to be ruptured by blunt force. When rupture occurs with a full stomach, massive peritoneal contamination results. The majority of patients either present in shock or develop hypotension shortly after arrival. Signs and symptoms of an acute abdomen are almost invariably present, but free intraperitoneal air on abdomen and chest films is seen only 16-66% of the time.^{3,8,9,10} Our patient showed no pneumo-peritoneum on X-ray.

The anterior wall of the stomach is the most common site of rupture. This distribution of rupture is related to the relatively fixed nature and momentum of a large volume of gastric contents.⁸ Our case had isolated double rupture of the stomach of both the anterior and posterior wall, with no other viscous injury. This is indeed uncommon and not often reported in the literature. This

type of injury certainly shows the abruptness and severity of force applied over a full stomach. Interestingly, the healing capacity of the stomach is impressive in the face of such profound contamination and the formation of the intra-abdominal abscess. Only one suture line leak was mentioned by Franken and Barker¹¹ and the patient survived. This tremendous healing quality of the stomach is doubtless related to its blood supply and strong seromuscular layer.

The mortality associated with traumatic gastric rupture has been reported to range from 0-66%.^{3,7,8,9} The majority of deaths occur mainly due to associated injuries. The majority of complications, however, are septic in nature and relate directly to massive intraperitoneal contamination. The most common complication is intra-abdominal abscess formation, which is often extensive, recurrent and very difficult to treat. As mentioned by Siemens and Fulton,⁸ intra-operative lavage, drainage of abscesses and systemic antibiotics are no guarantee against abscess formation, and an aggressive approach to re-operation and drainage of abscesses is the key to survival for these patients.

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Errata

Volume 25;2 (March-April 2005) — On page 175 after the letter "Re: Assay of flouride levels in drinking water" the author's name was misspelled. It should have been Dr. Jafar Kolahi, DDS.

Volume 25;2 (March-April 2005) — In the article "A population-based screening for gestational diabetes mellitus in non-diabetic women in Bahrain," the in-text citations and reference list contained errors:

The first sentence in the second column on page 130 should have cited reference 17 instead of reference 1, as follows: "In the Kingdom of Bahrain, there is

a high prevalence of diabetes mellitus with most of the population having first-degree relatives with diabetes who belong to an average or high-risk ethnic group."¹⁷

The in-text citations after reference 17 should have been numbered as follows: 17 as 18; 21 as 19; 22 as 20; 23 as 21; 18 as 22; 20 as 23; in the discussion, 22 as 24; 23 as 25, 24 as 26.

The corrected article is available on-line at the following URL: http://app.kfshrc.edu.sa/annals/articles/25_2/04-096.pdf

The list of references should have appeared as follows:

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