

Case series of acute hemolytic crisis after eating fava beans

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Abstract:

Favism is defined as an acute hemolysis that occurs following the ingestion of fava beans. This phenomenon is attributed to the deficiency of glucose-6-phosphate dehydrogenase (G6PD), which is an enzyme involved in the pentose phosphate pathway. In this case series, despite the presentation with 4 different complaints and clinics, when the anamnesis is questioned, it is seen that there are cases of favism due to G6PD.

Key words: favism, g6pd; haemolysis; fava beans

Introduction:

Normally, affected individuals are asymptomatic, but under the influence of oxidants, severe intravascular haemolysis may occur. One of the most significant oxidants is the fava bean, which, when consumed, may precipitate acute favism, a condition with a 10% mortality rate in the absence of appropriate treatment. A diagnosis of favism is typically suspected when patients from certain ethnic groups develop anaemia, jaundice and symptoms of haemolysis following exposure to any of the aforementioned causes.

Cases

Patient 1 a 44-year-old female patient was admitted to the emergency department with complaints of fatigue and dark urine, which started after eating fava beans 2 day ago. Vitals were stable. No acute pathology was observed in the patient's physical examination. The patient's blood values: hb:7.6 direct bil:0.86 total bil:4.47 indirect 3.62 ldh 902. No acute pathology was observed in other blood and urine values. The patient was given iv fluid support.

Patient 2 a 27-year-old male patient diagnosed with G6PD applied to the emergency department with complaints of abdominal pain, darkening of urine color and yellowing of the eyes, which started after eating broad beans 1 day ago. In the physical examination of the patient, no acute pathology was observed other than yellowing of the sclera and tenderness in the abdomen. No acute pathology was observed in the patient's blood samples except for the specified values. hb:10.3 direct bilirubin: 0.28 total bilirubin: 0.9 indirect bilirubin:0.6 ldh:140. The patient was given iv fluid support.

Patient 3 a 30-year-old female patient diagnosed with G6PD came to the emergency department with complaints of abdominal pain, jaundice, and diarrhea after eating broad beans 2 days ago. hb:7.9

ldh 423 db: 066 idb: 2.14 total b: 2.8 The patient was given iv fluid support.

Patient 4 a 24-year-old male patient was brought to the emergency room with complaints of abdominal pain, nausea and vomiting that started after eating broad beans 2 days ago. When it was seen that the patient's oxygen saturation was 74, oxygen was given by mask and the saturation was increased to 95. Blood pressure 110/80. pulse 126. LDH 1306, idb 5.6, db 0.6 were observed in the patient's blood. The patient's HB was 7.2. The patient, whose control HB was 5.8, was admitted to intensive care. The patient's values gradually improved within 1 week after blood transfusion and fluid support were applied.

Discussion

Favism is a acute hemolysis after intake of fava beans. Acute haemolysis due to G6PD (Glucose-6-Phosphate-Dehydrogenase deficiency). (1,2) Normally, affected individuals are without signs of disease, but under the influence of oxydants severe intravascular haemolysis may occur. (3) One of the most important oxydants is the fava bean which, when ingested, may cause acute favism, a condition which has a 10% mortality if not treated properly. (4) There are two main variants of G6PD deficiency (the Mediterranean variant and variant A) with different clinical profiles. Acute haemolytic attacks are induced by certain drugs, by infections or, in the Mediterranean variant, by ingestion of fava beans. The diagnosis is generally suspected when patients from certain ethnic groups develop anemia, jaundice and symptoms of hemolysis after challenges from any of the above causes. (5)

These case series demonstrated that the clinical picture after eating fava beans may differ in G6PD patients. It also showed that while

some patients recover with simple fluid support, others may die if rapid blood transfusion is not performed. Of the patients, three were aware of their G6PD diagnosis. However, the first patient's diagnosis was confirmed through anamnesis and subsequent tests in the emergency department.

In this case series, we showed that the clinical picture after eating broad beans may be different in G6PD patients. We also showed that while there are patients who recover with simple fluid support, there are also patients who may die if rapid blood transfusion is not performed. While 3 of the patients were aware of the diagnosis of G6PD, the diagnosis of the first patient was clarified by the anamnesis taken in the emergency department and the tests performed later. Favism, a rare cause of abdominal pain, should be kept in mind in patients who come to the emergency department with abdominal pain.

Conclusion

When we see a patient who has a history of favism we have to be alert about hb value. Also In these cases we demonstrated that on acute hemolytic anemia caused by g6pd early blood transfusion is so important.

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