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Case Report on Sickle Cell Anemia

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Introduction: Sickle cell anemia is a kind of anemia caused by a virus a homozygous HbS mutation (HbSS). Sickle cell disease (SCD) is a congenital blood illness that has an impact children. It is inherited from a parent's DNA. SCD patients produce an abnormal kind of hemoglobin. This is the oxygen-transporting protein found in red blood cells. SCD causes a lack of oxygen in organs and tissues of the body.
Clinical Findings: Fever, Cough and cold, pain in lower extremities, Bodyache , Fatigue and Anemia (6.3 gm/).
Diagnostic Evaluation: Blood test: Hb -6.3gm%, Total RBC count -2.2millions/cu mm, RDW-18.2%, HCT-20.2%, Total WBC count 3000/cu mm, Monocytes 02%, Granulocytes 20%, Lymphocytes 77%, AST(SGOT) – 110 UL.
Peripheral Smear: RBC mild hypochromic with mild cytosis which show few microcytic and mildly Hypochromic. Platelets – Reduced on smear, APC -60,000 cells.
Ultrasonography: Splenomegaly.
Therapeutic Interventions: Blood transfusion, Inj. Cefotaxime 750 mg IV x BD, Syr. Azee 4ml x OD, Tab. Folic Acid 5 mg x OD, Tab. Udiliv 150mg x BD, Cap. Hydra 500 mg x OD.

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Outcome: After treatment, the child show improvement. His fever and body ache, cough and cold fatigue and pain in hands and leg were relieved and his Hb% increased from 6.4 gm% to 11 gm% after blood transfusion.

Conclusion: My patient was admitted to Pediatric Ward No- 22 in AVBRH with a known case of SCA kind of anemia a body in which he had complaint fever and body ache, cough and cold fatigue and pain in hands and leg. After getting appropriate treatment his condition was improved.

Keywords: Sickle cell disease; pathogenesis; Inheritance; management are all terms used to describe disease.

1. INTRODUCTION

Sickle cell disease, also known as or depanocytosis, is a chronic blood illness in which RBC obtain an abnormal, inflexible sickle form [1-3]. The sickling is generate via a mutation in the haemoglobin gene. Males and females had 42 and 48 years of life expectancy, respectively. According to National Institute of Health, the condition affects about one in every 5,000 people in the United States, with African Americans being the most affected [4,5].

1.1 Inheritance

Sickle cell anemia is a disease that is passed down from one's parents. Blood type, hair texture and color, eye color, and other physical features all play a part. The type of haemoglobin that a person's red blood cells generate [6-8]. It is determined by inherited haemoglobin genes. A child has a 50% chance of having (SS) and a 50% chance of having trait (AS) if one parent (SS) and the other has trait (AS) (AS). There is a 25% chance that a child if both parents have sickle cell trait (AS) (SS).

1.2 Sickle Cell Disease is Classified in to

There are several types of sickle cell disease. The most common are: Sickle Cell Anemia (SS), Sickle Hemoglobin-C Disease (SC), Sickle Beta-Plus Thalassemia and Sickle Beta-Zero Thalassemia.

2. ETIOLOGY

Hereditary, Undesirable gene mutation, Consagenious marriage increases the incidence Rate.

2.1 Significance and Symptoms

It can cause a variety of acute or chronic problems, some of which can be fatal. Fever, Body ache, severe and reoccurring infection, mild jaundice ,generalized weakness ,Pain and oedema in lower extremities, Signs of poor oxygenation – pallor. Hypertension or Hypotension, shortness of breath dizziness, iritability ,Swollen tender hands and feet , Headache ,Growth Retardation ,Chronic hemolytic anemia are some common Symptoms of sickle cell anemia. Blood examination, Isoelectric focusing, High performance liquid chromatography (HPLC), sickling test, radiological Screening are common investigations done in sickle cell anemia.

3. MANAGEMENT

If a diagnosis is made early and prospective follow-up is established, many of the symptoms of sickle cell disease can be effectively controlled. The therapy of is divided into stages : quiescent and crisis. Management of anemia include to give the child Analgesics to relief a pain , Antibiotics to reduce infection , steroids to some cases to controlling pain and swelling, administration of intravenous fluids, Hydration is also given , Nutrition which is a higher calorie intake. Anti-infective prophylaxis – Immunization, vaccine regimens must be followed meticulously. Infections and their Treatment Infections should be diagnosed and treated as soon as possible once they arise. Oxygen Therapy also be given, Blood transfusions. If patient have a splenectomy at any time during their lives. Hypersplenism may result from a sequestration crisis [9,10]. As a result, the spleen should be removed. However, it can having risk to person. Person will be closely monitored by doctor and want hematologists interventions for stay healthy. Hydroxyurea (Hydroxyurea) is a kind of (Droxia, Hydrea)., reduces the Pain and minus the requirements for hemotransmissions and hospitalisation. Bone Marrow Transplantation: transplants seen be effective.

3.1 Patient Identification

A male child of 8 years from Seloo , Wardha admitted to pediatric ward no 22, AVBRH On 20 February 2021 with a known case of sickle cell anemia . He is 25kg and his height is 126cm.

3.2 Present Medical History

A male child of 8 years Old was brought to AVBRH on 20 February 2021 by His parents with a complaint of fever, body ache, cough and cold, fatigue and pain in hands and leg and he was admitted to Pediatric ward no 22. He is a known case of Sickle cell anemia and his Hemoglobin level at the time of admission was 6.4gm%. The child is weak and inactive on admission.

3.3 Past Medical History

At the age of 6 months when he was admitted to hospital due to fever. Then he diagnosed as Sickle cell anemia. Till then, he was admitted to hospital time to time for the purpose of blood transfusion.

3.4 Family History

There are four members in the Family. My patient was diagnosed to have Sickle cell anemia and his parents were diagnosed to be carrier of Sickle cell anemia. Type of marriage of the parents is non admitted consanguineous marriage. All other members of the family were not having complaints in their health except for my patient who was being admitted in the hospital.

3.5 Past Interventions and Outcome

When he was six months old, my patient was diagnosed with Sickle Cell Anemia., from that time onwards he was admitted to hospital time to time for treatment of the disease mostly blood transfusion. It was found effective as the patient does not develop complications till then.

3.6 Clinical Findings

Fever, Cough and cold, Body ache, pain in lower extremities, Fatigue, Anemia (Hb-6.4gm%).

3.7 Etiology

It arises when among the genes involved production of haemoglobin has a homozygous mutation or any other problem. When there is a genetic anomaly, it can be passed on down the generations. If both parents is carrier then more chances to develop.

3.8 Physical Examination

There is not much Abnormality found in head to toe examination, child having swollen hand and feet, the child is lean and thin and having dull look. He is weak and not so cooperative. Though it is found that the child is Sickle cell anemia having splenomegaly from ultrasonography, it is not palpable.

3.9 Diagnostic Assessment

Blood test: Hb – 6.3gm%, Total RBC count – 2.2 millions/cumm, RDW – 18.2%, HCT 20.2%, Total WBC count 3000/cumm, Monocytes – 02%, Granulocytes -20%, Lymphocytes- 77%, AST(SGOT) – 110UL. Peripheral Smear: RBC - mild hypochromic with mild cystosis which show few microcytic and mildly hypochromic. Platelets – Reduced on smear, APC – 62,000 cells. Ultrasonography – splenomegaly.

3.10 Therapeutic Intervention

Blood transfusion, Inj. Cefotaxime 750mg IV x BD, Syr. Azee 4ml x OD, Tab. Folic Acid 5mg x OD, Tab. Udiliv 150mg x BD, Cap. Hydra 500mg x OD.

4. DISCUSSION

A male child of 8 years old from Selu Wardha was Admitted to pediatric ward no 22, AVBRH on 20 February 2021 with a complaint of fever, body ache, cough and cold, pain in lower extremities, fatigue And Hb% less than normal limit. He is a known case of Sickle cell anemia which was diagnosed when he was 6 months old. As soon as he was admitted to hospital investigations were done and appropriate treatment were started. After getting treatment, he shows great improvement and the treatment was still going on till my last date of care. This case report study about sickle cell anemia in children is designed to provide students with information about the disease and to aid them in their studies.

5. CONCLUSION

One of the most frequent types of anemia in children is sickle cell anemia.. its is very important to diagnose in early stage so that the

child will not develop complications from the disease. It is also very important to take epidemiological preventive measures like antenatal screening and giving assess genetic counseling are very important. My patient show in great improvement after getting the treatment and the were treatment was still going on till my last date of care.

CONSENT

As per international standard, parental written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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