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Acute Chest Syndrome in Children with Sickle Cell Disease

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Background: Acute chest syndrome (ACS) is a known complication of sickle cell disease (SCD). It carries high morbidity and mortality.

Objective: To study the pattern of ACS among children with SCD in our region in a descriptive manner, and to compare our local experience with international experiences.

Method: We conducted a retrospective study of 28 children with ACS, to evaluate the frequency, clinical, laboratory, and radiological features of this complication among children with sickle cell disease in the Southern Province of Saudi Arabia.

Results: Our results revealed that the frequency of ACS episodes are age dependent, which occurred more frequently in young children, more than 4 years of age (n = 16) 57%. Fever and cough were the most frequent symptoms; (n = 26) 93 % and (n = 24) 86% respectively. Most of the cases experienced respiratory distress such as tachypnea (n = 24) 86%, chest retraction (n = 18) 64%, and decreased breath sounds (n = 16) 57%. Small number of patients (n = 3) 11% had complete normal chest examination. In our study, painful crisis was the most commonly associated complication along with ACS (n = 22) 79%. All of the chest X-rays were positive at different anatomical sites; bilateral involvement was observed frequently (n = 33) 36%.

Conclusion: This retrospective study demonstrates the clinical presentation of ACS in children with SCD in this part of Saudi Arabia. It is of great value as baseline study. Nevertheless, further studies of such condition are required to clearly understand this important complication of SCD.