



Recurrent orbital bone sub-periosteal hematoma in sickle cell disease: A case study

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Background: Sickle cell disease is a common inherited hemoglobinopathy and is associated with high morbidity and mortality. Vaso-occlusive crises commonly occur in individuals with SCD that results in high morbidity due to end-organ ischemia and infarction. These include splenic infarction, pulmonary involvement, acute chest syndrome, and orbital compression syndrome. Ocular manifestations of SCD include anterior segment ischemia, secondary glaucoma, angoid streaks, retinopathy, and retinal artery occlusion. Commonly reported causes for the incidence of sickle cell disease are extreme temperatures, wind speed, and rainfall. This study has conducted an investigation of recurrent orbital bone sub-periosteal hematoma in a sickle cell patient that was exposed to high altitude areas.

Case presentation: A 12-year-old boy with SCD developed a recurrent sudden periorbital pain and swelling during a visit to high altitude area. The family reported two similar attacks previously. The patient recovered completely with timely initiated conservative treatment. The case study is about homozygous SCD with previous history of similar attack of painful periorbital swelling that resolved after conservative management. This condition was associated with proptosis, diplopia, and restriction of eye movement. Magnetic resonance imaging of the orbits showed right orbital roof subperiosteal mass adjacent to the orbital wall, which was identified as a subperiosteal haematoma, inducing proptosis. The patient was discharged after 7 days with follow up.

Conclusions: Infarction of orbital bones during vaso-occlusive crises in SCD presented acutely with a rapidly progressive painful periorbital swelling. Hematomas frequently complicate the condition, along with the inflammatory swelling that may lead to the orbital compression syndrome. The condition is sight-threatening and necessitates prompt diagnosis along with appropriate management. This condition mandates prompt initiation of conservative treatment and close monitoring of the optic nerve functions to prevent permanent visual loss in young patients.

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