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Letter to Editor

Internal Medicine Section

Numb Chin Syndrome in Sickle Cell Disease

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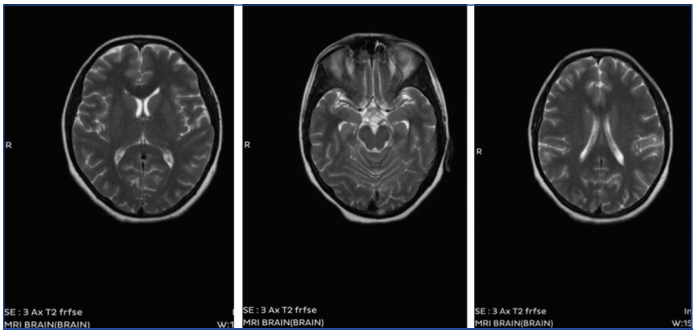
Dear Editor,

Damage to the inferior alveolar nerve causes numb chin syndrome. It is indicative of an aggressive lymphoproliferative disease or metastatic malignancy when no obvious mandibular cause can be discerned [1]. Sickle cell disease is an autosomal recessive disorder that results in glutamic acid being substituted by valine at the 6th position of the β-globin chain of the haemoglobin molecule [2]. Change in the morphology of the erythrocyte due to polymerisation of deoxygenated haemoglobin results in acute and chronic complication of the disease out of which mental nerve neuropathy and numb chin syndrome are rarely encountered [3].

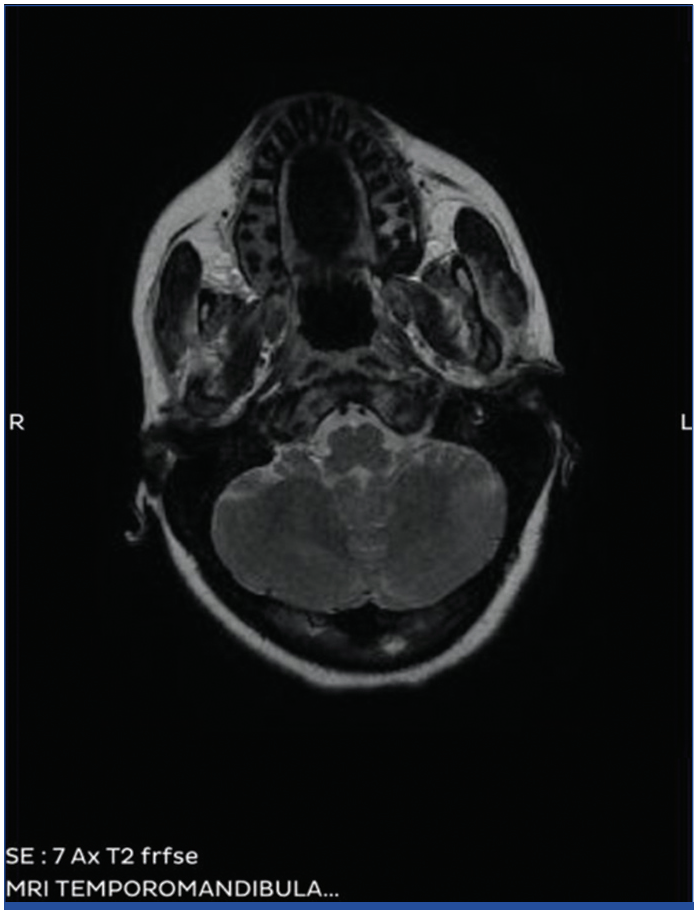
A 24-year-old female, a known case of sickle cell "SS" pattern diagnosed 4 years earlier presented to us with the complaints of severe backache, pain in extremities, fever, numbness of lower lip and chin of 2 days duration. There was no history of cough, expectoration, breathlessness or burning micturition. On examination she was conscious and oriented, pulse was 102/min, blood pressure was 100/70 mmHg, respiratory rate was 36/minute and her oxygen saturation was 93% on room air. Central nervous system examination showed loss of sensation localised to the lower lip and chin. Cranial nerves were intact and no abnormal findings were present on motor system examination. On auscultation air entry was equal on both sides and normal heart sounds were heard. The abdomen was soft and non tender with no organomegaly.

Her laboratory investigation were suggestive of a haemoglobin level of 6.4 mg/dL, mean corpuscular volume of 54 fL, white blood cells count of 12,300/cumm, platelet count of 83,000/cumm, Serum glutamic-oxalacetic transaminase of 96 IU/L, serum glutamic-pyruvic transaminase of 45 IU/L, serum bilirubin of 1.6 mg/dL, serum protein of 5.4 mg/dL, urea of 17 mg/dL, creatinine of 0.4 mg/dL, sodium of 143 mmol/L and potassium of 4.0 mmol/L. Chest X-ray and ultrasound of abdomen and pelvis revealed no abnormality. In view of numb chin syndrome Magnetic Resonance Imaging (MRI) of temporomandibular joint and brain was done, which were normal [Table/Fig-1,2].

With no positive finding at local site or on imaging studies she was treated with blood transfusions, amoxicillin plus clavulanic acid, levofloxacin, hydroxyurea, folic acid, zinc supplementation, sodium



[Table/Fig-1]: Magnetic Resonance Imaging (MRI) brain with no obvious abnormality in the brain parenchyma.



[Table/Fig-2]: Magnetic Resonance Imaging (MRI) Temporomandibular joint showing no obvious abnormality in the brain parenchyma.

bicarbonate tablets, i.v. fluids and analgesics. Within the next 48 hours she improved significantly with a resolution in most of her symptoms but persistence of numbness in the lower lip and jaw and was discharged. The numbness gradually improved on subsequent follow-up with complete recovery in a span of 6 months.

Numb chin syndrome is a rare complication involving the inferior alveolar nerve; a branch of the mandibular division of the 5th nerve. It enters the mandible via the mandibular foramen and then divides into incisor and mental branches [4]. The mental nerve travels through the mental foramen and bends at the levels of the canines to supply the skin of the lower lip, chin, mucous membrane of the lateral gum, lower lip and teeth. Thermo analgesia, paraesthesia and hypoesthesia following the involvement of the mental nerve in the areas supplied by it is the common presentation of numb chin syndrome [5]. This syndrome has been encountered in cases of occult malignancies, lymphoproliferative disorders, post viral infection, in lymes disease, giant cell arteritis, sarcoidosis, amyloidosis and postdental procedures and dental anaesthesia.

In the present case, numb chin syndrome occurred as a rare consequence of sickle cell disease. It may range from acute

mandibular crisis to acute mandibular osteomyelitis. In sickle cell crisis, abnormal red blood cells block the mental artery thus causing ischaemia or infarction of the mental nerve [6]. Numbness may also be experienced secondary to compression of the inferior alveolar nerve as a result of periosteal inflammation in the mandibular canal [7]. Infarction of the nerve in the region of the mental foramen during crisis has been hypothesised as a cause for delayed recovery [8]. In current case, numb chin syndrome occurred as a rare consequence of sickle cell disease.

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