



ORIGINAL RESEARCH PAPER

Neurology

CASE REPORT – BRAIN ABSCESS PRESENTING WITH HEMIPLEGIA SECONDARY TO ETHMOIDAL/MASTOID SINUSITIS.

KEY WORDS:

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ABSTRACT A 21 year old boy presented to the emergency room with altered sensorium and generalized tonic clonic seizures and sudden onset of weakness on the left side of the body. on examination an abnormal swelling was present in the frontotemporal region of cranium with uneven margins on examination Increased Temperature and low BP with Tachycardia. A MRI was planned which showed Frontotemporal abscess/empyema with ethmoidal, frontal and maxillary sinusitis. an immediate craniotomy was planned to drain the abscess. The patient was later discharged after 3 weeks with no evident neurological deficits.

INTRODUCTION-

This case demonstrates a subdural empyema which occupies the frontotemporal lobe of the cranium – it's more like a dumbbell abscess extending from extradural space to subdural space through probably emissary veins and its direct extension from the ethmoidal and frontal sinus as suggested by the MRI picture depicting sinusitis of the same. Intracranial extension of acute or chronic sinusitis is a known complication and has a reported incidence of 3.7% to 11% in hospitalized patients. Commonly, intracranial complications are seen in the first 2 decades of life as this age group is most prone to sinus disease. While the clinical incidence is low, physicians must have a high index of suspicion for intracranial infections in the presence of focal neurologic symptoms and sinus disease. Early diagnosis and treatment is essential, as these infections have the potential for devastating neurologic disability. Emergency medicine literature is limited on this topic which was previously referred to as "Pott's Puffy Tumor".

Case Report-

A 21 year young boy presented to the ER with the chief complaints of altered sensorium and recurrent episodes of GTCS since one day, with weakness of the left side since 1 day. He was asymptomatic 15 days back when he started developing a swelling gradual in onset and progressive in nature. It was mildly painful and was associated with headache which involved the whole cranium and was non pulsatile, and continuous, radiating to supraorbital ridges without any diurnal variation. There was no aggravating feature and was relieved on taking medications. It was no associated with any discharge, photophobia, vomiting. There was no history of trauma or assault.

The patient also complained of weakness on left side of the body sudden in onset and progressive in nature since 1 day. It started from lower limbs and later on progressed to trunk and upper limbs in duration 6-8 hours. It was associated with slurring of speech- the repetition, naming, comprehension, reading, writing and articulation were intact but mild alteration in the fluency was present. There was no difficulty in swallowing or chewing of food. Slight deviation in the angle of left side of the mouth was noted with no ptosis or difficulty in vision.

The patient attendant complained of abnormal body movements since 2 days which followed a pattern of clenching of teeth followed by increased tone of all the muscles of the body followed by abnormal body movements involving all the limbs and trunk followed by loss of consciousness. The episode lasted for about 2-3 minutes and total of 5 episodes were experienced by the patient in the duration of 24 hours for which he was rushed to the hospital.

No history of ear discharge, tooth ache, chest pain, dyspnea, nasal discharge, traumatic tissue injury, burning micturition,

syncope.

On Examination-

BP- 110/60mm of HG PR- 92/min RR- 24/min SP02- 98% Temperature- 101

Patient is conscious, altered sensorium, thin built and well oriented to time place and person with GCS- E4V5M6 with weakness in the left lower and upper limbs (hemiplegia)

ON CNS EXAMINATION- All cranial nerves are intact, sensory system is intact, higher mental functions intact, on motor system examination-

	RIGHT UPPER LIMB	LEFT UPPER LIMB	RIGHT LOWER LIMB	LEFT LOWER LIMB
POWER	5/5	0/5	5/5	0/5
TONE	normal	hypotonic	normal	hypotonic
DTR	normal	normal	normal	normal
SUPERFICIAL REFLEXES	normal	normal	normal	normal
PLANTAR			flexor	extensor

Meningeal Signs- Absent

Rest all systems were normal.

Investigations:

Haemoglobin: 10.5 gm %, ESR- 36, MCH: 24.1, WBC: 15000/cumm, DLC: N-84, L-10, M-05, E-01, B-00, SGPT- 48.0 U/L, ALP- 183.0 u/l, Na- 129.0 mEq/L

MRI of Brain-

Correlating with the symptoms of the patients which was hemiplegia, GTCS and abnormal swelling in the frontotemporal area we focused our investigation to the MRI brain with paranasal sinuses find the evidence for the same.

Management-

Initial- Initially patient was started on anticonvulsive therapy, and basic supportive management was started while the MRI was done. Antipyretics with broad spectrum antibiotics added with PPI to avoid gastritis. He was catheterized. Patient recovered with 10 days of antibiotics with residual weakness and was discharged and followed up for next few weeks.

DISCUSSION.

Brain abscess (or cerebral abscess) is an abscess caused by inflammation and collection of infected material, coming from local (ear infection, dental abscess, infection of paranasal sinuses, infection of the mastoid air cells of the temporal bone, epidural abscess) or remote (lung, heart, kidney etc.) infectious sources, within the brain tissue. The infection may also be introduced through a skull fracture following a head trauma or surgical procedures. Brain abscess is usually associated with congenital heart disease in young children.

The source of primary foci can be located by the area involved by the abscess .1) Infections of the middle ear-infection in middle and posterior cranial fossa. 2) Congenital heart disease with right-to-left shunts- 3) infection in the distribution of middle cerebral artery 4) infection from frontal and ethmoidal sinus- infection in the subdural space. 5) It is possible that the brain abscess developed as a result of a direct communication between the paranasal sinus and the cranial cavity with destruction of the frontal skull base and dura mater which may also result in infection of abscess both intra and extra cranially

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