

Crossed Aphasia

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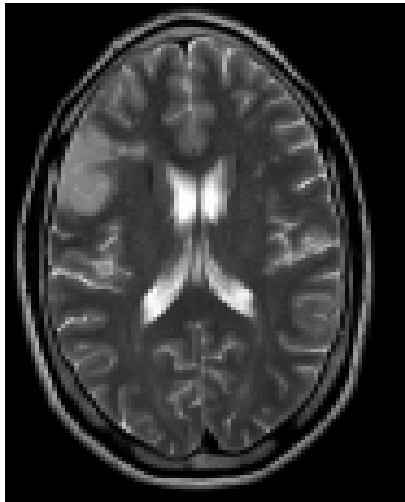


Fig. 1: MRI Brain (T2-axial) showed infarct over right frontal region

35 year old male, smoker, non-alcoholic, not a diabetic or hypertensive, admitted with history of acute onset of difficulty in speaking for 3 days. He is a right handed individual and there was no family history of left handedness. On examination, patient was Conscious, aphasic, PR 80/mt, BP 120/80 mm, pupil 3 mm equally reacting to light on bothsides, Fundus was normal. There was no weakness of limbs. All Deep tendon reflexes were normal with bilateral plantar flexors. Sensory, Cerebellar systems were normal. Examination of language revealed, impaired repetition, normal comprehension, less fluency was noted. Naming, reading, writing was good suggestive of motor aphasia. MRI Brain (T2 axial, Flair-coronal, DWI) showed infarct over right frontal region (Figures 1, 2, 3). Routine investigations including blood biochemistry was normal. ANA & vasculitic work up were normal. In view of the above clinical features and imaging, diagnosis of crossed aphasia due to right middle cerebral artery infarct was made. Patient was treated with antiplatelets, statins and speech therapy. On follow up after 6 months, patient's language function recovered to become transcortical motor aphasia.



Fig. 2: MRI Brain (Flair-coronal) showed infarct over right frontal region

Discussion

Aphasia occurs due to disturbance of comprehension and formulation of language Produced by damage of cortical regions related to language function. Speech is lost only when dominant hemisphere involved. Language dominance occurs in 95% humans are right handed individuals with left hemisphere dominant, 5% humans are left handed individuals, in which 80% are left hemisphere dominant, 10-15% are right hemisphere dominant and <5% are Equidominant.

Crossed aphasia is an acquired language impairment following a lesion in the right hemisphere in a right-handed individual was described by Bramwell in 1899.¹ The incidence is between 0.4 percent and 2 percent.² Crossed aphasias may occur more frequently in women than men, perhaps because of sex differences in brain asymmetry. Precise mechanisms underlying language disorders of crossed aphasia are not yet completely understood.³ The accepted criteria for the diagnosis of crossed aphasia require 1) absence of left handedness or

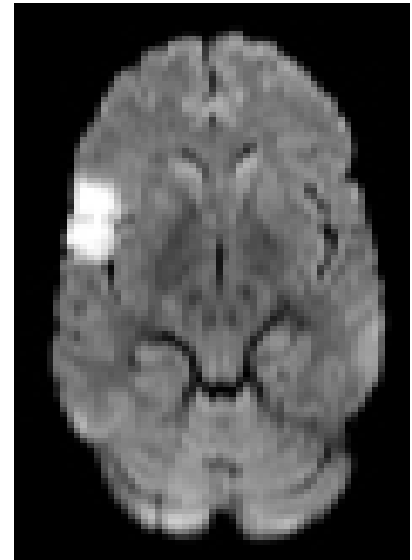


Fig. 3: MRI Brain (DWI) showed infarct over right frontal region

ambidexterity in the patients and family members 2) clear cut lesion of the right hemisphere diagnosed by computed tomography, 3) definite language disturbance.³ Proposed explanations for crossed aphasia include 1) a previously silent or unrecognized lesion in the left hemisphere that is somehow rendered symptomatic by a new lesion in the right hemisphere 2) ipsilateral control of the dominant hand 3) bilateral representation of linguistic functions 4) an arrested developmental stage in the lateralization of language function. The most common cause of crossed aphasia are trauma, and vascular disorders.

This case is being presented for its rarity.

References

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3. Primavera A, Bandhini F. Crossed aphasia; analysis of a case with special reference to the nature of the lesion. *Eur Neurol* 1999; 33:30-33.