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Post-Traumatic Wernicke's Aphasia: The Role of Magnetic Resonance Imaging in Diagnosis

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Abstract **Case Report**

Wernicke's aphasia is a fluent type of aphasia characterized by unintelligible speech and impaired auditory comprehension, typically resulting from damage to the posterior portion of the superior temporal gyrus in the dominant hemisphere. We report the rare case of Wernicke's aphasia following a traumatic brain injury, emphasizing the crucial role of magnetic resonance imaging (MRI) in establishing the topographic diagnosis.

Keywords : Wernicke aphasia, post traumatic, MRI.

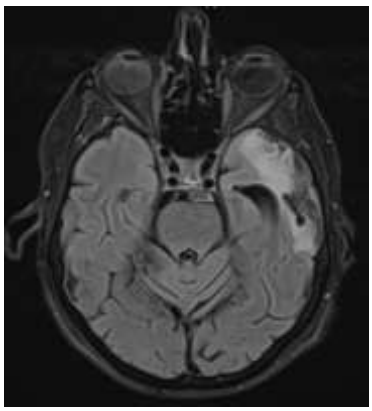
INTRODUCTION

Traumatic aphasia is an uncommon complication of head injury, which may result from either closed or penetrating trauma. Wernicke's aphasia is particularly rare in this context and is characterized by fluent but nonsensical speech, along with severely impaired language comprehension. Diagnosis is based on neuropsychological evaluation and neuroimaging, especially MRI, which enables accurate localization of cortical and subcortical damage.

CASE REPORT

A 58 -year-old with no prior neurological history was admitted to the emergency department following a road traffic accident with moderate head trauma and no prolonged loss of consciousness. On examination, the patient exhibited fluent, paraphasic speech and severely impaired auditory comprehension, consistent with Wernicke's aphasia. There were no motor or sensory deficits. Neuroimaging was performed.

Brain MRI revealed cortico-subcortical foci in the left temporal lobe, involving the ipsilateral superior temporal gyrus (Brodmann area 22). This lesion contained porencephalic cavities and hemorrhagic sequelae consistent with a contusional origin.



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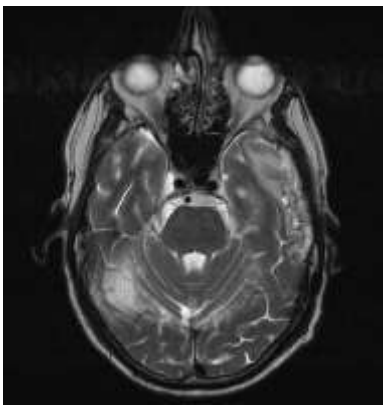

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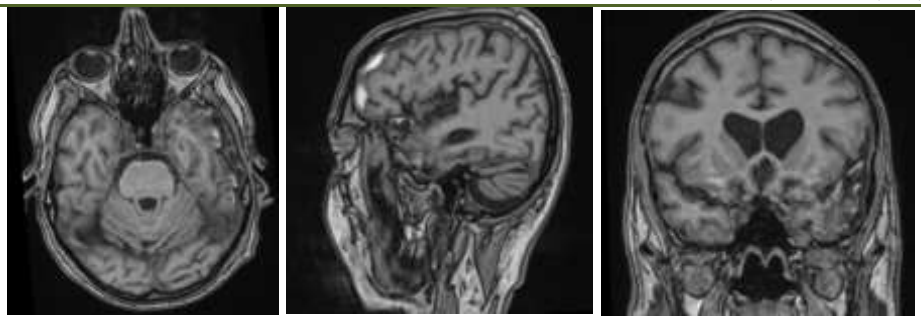

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Figure 1 : Brain MRI revealed cortico-subcortical foci in the left temporal lobe, involving the ipsilateral superior temporal gyrus (Brodmann area 22). This lesion contained porencephalic cavities and hemorrhagic sequelae consistent with a contusional origin

DISCUSSION

Post-traumatic Wernicke's aphasia is a rare clinical entity, usually resulting from focal damage to the left temporal cortex. The mechanism often involves cortical contusion or shearing of subcortical fibers due to rotational brain injury. MRI is the preferred modality for identifying subtle lesions, including cortical contusions not evident on CT. Prognosis depends on lesion severity and neuroplasticity. Early multidisciplinary management, including intensive speech therapy, is essential for optimizing recovery.

CONCLUSION

This case underscores the value of MRI in diagnosing post-traumatic Wernicke's aphasia by enabling precise localization of cortical injury. Early recognition allows for tailored management and improved functional outcomes.

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