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## Insular and Amygdala Origin Seizures: Unmasked with Electrocorticography (ECOG)

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# **Insular and Amygdala Origin Seizures: Unmasked with Electrocorticography (ECOG)**

**Younes Motii, Arichena Manmatharayan, Chamiraju Parthasarathi, Mona Elsayed**

Introduction:

Insula and amygdala have a large network of connections to other cortical regions. Seizures originating from these structures may become evident only after propagation to other structures. High degree of attention must be paid to auras and seizure semiology in patients with medically intractable epilepsy.

Methodology:

We have described a series of three adult male patients with focal intractable epilepsy who did not have structural lesions on Magnetic Resonance Imaging (MRI). Patients underwent MRI, Positron Emission Tomography (PET) scan, scalp electroencephalography (EEG), and stereo EEG implantation.

Results:

All three patients were found to have seizures originating from deeper structures with two having insular origins while the third patient had amygdala origin. Results with Individual ECOG data are described in the table and figures.

Conclusion:

Scalp EEG may not be adequate to determine seizures originating from deeper structures, which potentially contributes to delayed diagnosis. Focusing on patients' auras and semiology in these cases was found to be impactful in epileptic zone localization.