Auditory aura in frontal opercular epilepsy: sounds from afar

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Epileptic aura

• The subjective manifestation of a clinical seizure, typically assumed to be in close proximity to the epileptic generator. Modality depends upon the cortical region involved:
  – e.g. auditory auras localize to the temporal neocortex.
• “Elementary” auras implicate primary cortex:
  – e.g. auditory hallucinations of a ‘ringing’ sound implicate the primary auditory cortex.
• “Complex” auras implicate association cortex
  – e.g. auditory hallucination of voices or music, or auditory illusions such as a distortion of environmental sounds.
• However, as these cases demonstrate, aura may rarely be a “propagated” phenomenon, elicited remote to the epileptic generator or arising as a network process.
“Perisylvian epilepsy”

• An under-recognized focal epilepsy syndrome involving seizures of the opercular structures and subjacent insula. Semiology relates to the cortical regions involved:
  – Auditory hallucinations: temporal operculum
  – Hemifacial motor/sensory: frontal and parietal operculum
  – Ipsilateral/contralateral/bilateral sensory: second somatosensory area (parietal operculum)
  – Laryngeal symptoms, autonomic symptoms, gustatory hallucinations: insula

• A form of temporal “plus” epilepsy