



Letter to the Editor

A new learning approach for identifying cortical brain areas around the central sulcus using the name of Allah

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To the Editor,

Normal brain cortex is very convoluted due to the development of a large cerebral surface area confined within the intracranial space. This cerebral curved surface consists of grooves named sulci and raised ridges between the grooves called gyri or convolutions.^[4] The term “convolution” originates from the Latin word “convolutus” relating to the structures rolled together or being infolded upon themselves.^[2] Cerebral convolutions are of great importance in neuroscience and neuroanatomy, especially regarding precise morphological, cytoarchitectural, and functional brain mapping. Medical students are required to learn not only major anatomical structures of the brain but also must understand their topography, spatial relationships, and clinical significance.^[1]

Nevertheless, teaching neuroanatomy to students is particularly challenging. This is in part attributed to the complexity of the brain and to the students’ inability to apply their knowledge of basic sciences to clinical situations (neurophobia).^[3] Memorizing anatomy by educational documents, anatomical models, cadaveric materials, and/or advanced neuroimages requires a lot of time and repetition. However, some memory tips and new methodologies may be used to reduce this hardship for medical students.^[1,5,6]

Here, we describe a new way to facilitate identification and memorization of some of the most important/critical cortical brain areas, for example, around the central sulcus.

If we contemplate the shape of the convolutions on the external surface of the left cerebral hemisphere (the dominant hemisphere in the right-hand man), we find that they form the Arabic name of “Allah” (الله) around the central sulcus (Rolandic fissure) area.

As shown in Figure 1, Alif (ا) corresponds to the anterior portion of supramarginal gyrus. The lateral sulcus (Sylvian fissure) terminates in the supramarginal gyrus (language function) (Brodmann area 40). The first Lam (ل) corresponds to the postcentral gyrus (primary somatosensory cortex) (Brodmann areas 3, 1, 2). The second Lam (ل) corresponds to the precentral gyrus (primary motor cortex) (Brodmann area 4). Finally, the aH (ه) corresponds to the Broca’s area (two-third posterior portion of inferior frontal gyrus). Broca’s area (motor speech) contains pars opercularis and pars triangularis of the inferior frontal gyrus (Brodmann area 44 and 45) [Figure 1]. Viewing these important brain structures with this simple mnemonic

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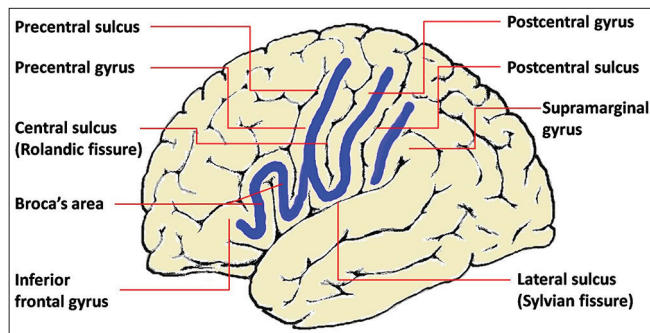


Figure 1: Schematic drawing of the left cerebral cortical surface anatomy. Note the Arabic transcription of the name Allah “الله” (God in Islam) locating the central sulcus (Rolandic fissure), the postcentral and precentral gyri as well as the Broca’s area.

method reinforces what must otherwise be learned by classic memorization.

This new learning approach was successfully implemented in a small group of young medical students; the feedback was positive. For future work, we plan to apply this new simple method for a larger number of medical students studying neuroanatomy.

Opinions among readers of this paper will surely vary, but we hope that this modest contribution will at least stimulate further scholarly and scientific supports to this fascinating topic.

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Conflicts of interest

There are no conflicts of interest.

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