

## Editorial

Dear Readers

Pakistan Journal of Neurological Surgery is recognized by The Higher Education Commission (HEC), Islamabad. The journal has been indexed in multiple International agencies like EuroPub UK, ICI (Index Copernicus), ISSN France, BASE Germany, Cross Ref, Eurasian Index, Asian Digital, PASTIC and PakMediNet. Here I am presenting some current views on the usage of AI in neurosurgery.

### Neurosurgery with Artificial Intelligence:

The safety and efficacy of surgery are the surgeon's priority. With the help of artificial intelligence (AI) tools, with learning algorithms based on millions of patients' records, the outcomes can be predicted following different types of surgeries.<sup>1</sup> According to the Journal of the American Medical Association by the Neurosurgical Simulation and Artificial Intelligence Learning Centre at The Neuro, McGill University, AI can enhance technical performance and learning outcomes during simulated brain tumor removal.<sup>2</sup> According to a study published in Nature partner journal Digital Medicine, an open-source smartphone app for meningioma has allowed surgeons and physicians to interactively with patients. The app helps doctors and brain tumor patients predict survival and help make better treatment decisions. Researchers have also created a machine-learning system to categorize tissue using a deep convolutional neural network (CNN).<sup>3</sup> New research also showed that machine learning can diagnose brain tumors at a fraction of the time it takes human pathologists. The new method streamlined the practice of analyzing tissue samples while the patient is still on the operating table. As per new findings in Nature Medicine, the new AI system can accurately diagnose a brain tumor in two minutes<sup>4</sup>. We should place a high value on research based on anticipating neuropathologies, surgical outcomes, and choosing neurosurgical techniques in advance.

### References:

1. Neurosurgery. 2022. med.stanford.edu. Available: <https://med.stanford.edu/neurosurgery/research/AI Lab.html>
2. Medindia. 2022. Available: [www.medindia.net](http://www.medindia.net). <https://www.medindia.net/news/artificial-intelligence-ai-future-of-neurosurgery-205768-1.htm>
3. Medical News Observer 2022. Available: <https://medicalnewsobserver.com/2020/01/06/stimulated-raman-histology-machine-learning-brain-tumor-diagnosis/>
4. Guzman J. 2022. Available: <https://thehill.com/changing-america/well-being/medical-advances/477016-artificial-intelligence-can-diagnose-a-brain/> Intelligence can diagnose a brain tumor in just two minutes

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**Prof. Dr. Muhammad Anwar Chaudary (LGH/PINS, Lahore)**  
**Prof. Dr. Saman Shahid (NUCES, Lahore)**