Stanford

Mustafa Caglar Sahin

Visiting Instructor, Neurosurgery

Bio

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Mustafa Caglar Sahin, MD is a neurosurgeon and research scholar at Stanford University with a primary focus on neuro-oncology and stereotactic radiosurgery. He completed his medical education at Erciyes University and his neurosurgical residency at Gazi University. Following his residency training, he has worked as a board-certified neurosurgeon, gaining independent clinical experience in the management of intracranial tumors and complex cranial pathologies.

Dr. Sahin's clinical practice includes the treatment of meningiomas, vestibular schwannomas, pituitary adenomas, gliomas, and other intracranial tumors. He has experience in microsurgical tumor resection, multimodal treatment planning, and stereotactic radiosurgery applications. His work also involves outcome evaluation and longitudinal patient follow-up in neuro-oncology.

In parallel with his clinical career, Dr. Sahin has developed an active research portfolio integrating clinical neurosurgery with molecular tumor biology and computational approaches. A central focus of his research has been telomere biology and long non-coding RNA regulation in meningiomas, particularly investigating the role of TERRA expression and telomere dynamics as potential biomarkers for tumor monitoring and prognosis. His work in this field has been recognized with the Best Young Meningioma Researcher Award.

He has also contributed to research exploring artificial intelligence applications in neurosurgery, including studies evaluating large language models in neurosurgical education and comparative analyses of AI systems in brain MRI interpretation. Through his academic work, he aims to contribute to the development of data-informed, evidence-based strategies for improving clinical decision-making in patients with intracranial tumors.

Dr. Sahin is a member of the European Association of Neurosurgical Societies, the European Skull Base Society, and the Turkish Neurosurgical Association. His long-term vision is to bridge surgical precision with computational intelligence and translational tumor biology to improve evidence-based decision-making in neuro-oncology.