

# Seyed Amir Asef Agah, MD

## Contact Information

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## Education

- **Tehran University of Medical Sciences**, Tehran, Iran *Doctor of Medicine (MD)*, 2025

## Research Experience

**Postdoctoral Research Fellow (2025-present)** Advanced Diagnostic and Interventional Radiology Research Center, Tehran University of Medical Sciences, Tehran, Iran

- **AI & Radiomics for Neuro-Imaging (Original Research)**
  - **Brain Metastasis Diagnosis and Differentiation:** Developed a curated dataset of 80 brain metastasis patients by leading the manual segmentation of tumor volumes from CE-MRI, establishing the ground-truth data for a novel predictive algorithm.
- **Clinical & Interventional Trials (Original Research)**
  - **Silent Ischemic Lesions in Aneurysm Treatment:** Designed and authored an IRB-approved protocol for a 60-patient prospective clinical study investigating silent ischemic lesions post-aneurysm treatment; currently leading patient recruitment as project lead.
  - **Intraarterial Chemotherapy for High-Grade Glioma:** Defined the scientific rationale and selected the dual-agent chemotherapy regimen (bevacizumab and carboplatin) for a high-grade glioma clinical trial protocol based on a comprehensive literature analysis. Currently in *patient recruitment* stage.
- **Systematic Reviews & Meta-Analyses (Lead Investigator)**
  - **Predictive Modeling in TBI & Aneurysms:** Leading two parallel meta-analyses investigating machine learning models for predicting TBI mortality and stratifying unruptured aneurysm risk; currently managing teams through data analysis and manuscript preparation.

- **Endovascular Device Comparison:** Authored and finalized the protocol for a network meta-analysis to evaluate the comparative efficacy and safety of intrasaccular versus extrasaccular flow diverters for intracranial aneurysm treatment.

### Peer-Reviewed Journal Articles

1. Rahmani F, Hasanzadeh M, Hassanian SM, Khazaei M, Esmaily H, **Asef Agah SA**, Naghipour A, Ferns GA, Avan A. Association of a genetic variant in the angiopoietin-like protein 4 gene with cervical cancer. *Pathology-Research and Practice*. 2020;216(7):153011. doi: 10.1016/j.prp.2020.153011
2. Dabbagh Ohadi MA, **Asef Agah SA**, Zamani R, Dashtkoohi M, Musmar B, Zomorodi A, Hasan D. The Woven EndoBridge device as a good alternative treatment for stent assisted coiling in intracranial bifurcation aneurysms: a systematic review and meta-analysis. *Neurosurgical Review*. 2024;47(1):825. doi: 10.1007/s10143-023-02167-1
3. Piri SM, Habibi MA, Shool S, Khazaeli Najafabadi M, Ahmadpour S, Alemi F, Nejadghaderi SA, Shokri P, Abdi M, Asghari N, **Asef Agah SA**, Tavakolpour S. Role of T follicular helper cells in autoimmune rheumatic Diseases: A systematic review on immunopathogenesis and response to treatment. *Human Immunology*. 2024;85(5):110838. doi: 10.1016/j.humimm.2024.110838

### Manuscripts Under Review

1. **Asef Agah SA**, et al. Comparative Analysis of Anterior versus Posterior Approaches for Chordoma Treatment: A Meta-Analysis.
2. **Asef Agah SA**, et al. Effectiveness of Anterior Interosseous Nerve Transfer for Ulnar Nerve Injuries: A Systematic Review and Meta-Analysis.
3. **Asef Agah SA**, et al. Macrophage Polarization Imbalance in Systemic Lupus Erythematosus: Bridging Pathogenesis to Therapeutic Innovation.

### Technical Skills

- **Programming:** Python, R
- **Libraries & Frameworks:** PyTorch, TensorFlow, Scikit-learn, Pandas, NumPy, Matplotlib
- **ML/AI Methods:** Deep Learning (CNNs), SVMs, Random Forests, Regression, Clustering, Radiomics, Feature Engineering, Model Validation (Cross-Validation)

- **Medical Imaging:** MRI/CT Image Processing, Segmentation (e.g., ITK-SNAP, 3D Slicer), Feature Extraction
- **Research:** Clinical Trial Design, Systematic Reviews, Network Meta-Analysis, Statistical Modeling

## Honors and Awards

- **Bronze Medalist**, National Student Biology Olympiad (2017)
- **Honorary Diploma**, National Medical Philosophy Olympiad for "Artificial Intelligence Impact on Medicine" (2021)

## Peer Review Activity

- **Reviewer**, *World Neurosurgery* (10 articles reviewed from January 2025 until now)

## Teaching & Leadership Experience

- **Lecturer and Mentor for Biology Olympiad Preparation (2018-2025)**
  - Delivered more than 100 lectures on molecular cell biology to over 1000 high school students across Iran
  - Provided comprehensive mentoring and support to students preparing for the Biology Olympiad
- **Head of Research Unit, Research Committee of Mashhad Medical School (2019-2021)**
  - Led a team of 6 members to connect interested students with relevant research departments
  - Solved technical problems encountered during research projects and facilitated research collaborations
- **Executive Director, Student Section of the Fourth Neuroinflammation Congress (2021)**
  - Interviewed over 100 candidates nationwide and built a high-performing team of 10 members
  - Oversaw the organization of workshops and poster presentations for the congress with over 100 students from Iran and Germany.