List of 10 best publications

S.no	Publications	Type of article	Role of Dr. V Suri	Impact factor & Indexing of journal
1.	**Suri V,** Das P, Jain A, Sharma MC, Borkar SA, Suri A, Gupta D, Sarkar C. Pediatric glioblastomas: A histopathological and molecular genetic study. Neuro Oncol. 2009 Jun;11(3):274-80.	Original Article	**First Author**	13.02 Pubmed Indexed
In this study, we investigated the genetic alterations in pediatric glioblastomas, which are rare but highly aggressive brain tumors in children. The study focused on the expression of specific proteins (p53, p16, p27, EGFR) and genetic changes (amplification of EGFR, deletion of PTEN) in a cohort of childhood glioblastomas\ patients. For the first time we documented that that the genetic characteristics of these tumors are distinct from those of adult GBMs. EGFR amplification and PTEN deletion were rare in pediatric cases, whereas p53 alterations were more common. Loss of p16 and p27 expression, which are associated with cell cycle regulation, was also observed in a significant number of cases. **This study highlights the need for identifying molecular targets for potential future therapies specific to pediatric malignant gliomas.** Highlights from this study were published in Nature Our FISH illustration from this paper were published as cover image of the journal **CLINICAL IMPACT** WHO 2021's segregation of pediatric high-grade gliomas from adult tumors establishes a path for tailored treatment protocols, acknowledging their distinct nature. This differentiation holds promise for improved therapeutic strategies and risk stratification in pediatric high grade gliomas .			
2.	**Suri V,** Jha P, Agarwal S, Pathak P, Sharma MC, Sharma V, Shukla S ,Somasundaram K, Mahapatra AK, Kale SS, Sarkar C. Molecular profile of oligodendrogliomas in young patients. Neuro Oncol. 2011 Oct;13(10):1099-106	Original Article	**First Author**	13.02 Pubmed Indexed

Our study delved into the molecular alterations within oligodendrogliomas (OGs) across diverse age groups. In adults, OGs commonly exhibit combined 1p and 19q deletions, MGMT methylation, and IDH1 mutations. Conversely, among pediatric and young adult cases, our research uncovered distinctive trends:
Unlike adult cases, young patients did not display the combined 1p/19q deletion.In both the pediatric and young adult subgroups, there was observable MGMT gene promoter methylation.Unlike adults, IDH1 mutations were notably absent in both subgroups.Additionally, TP53 mutations were not detected in any cases.
These distinctions underline the significance of comprehending age-specific genetic profiles in OGs, which in turn facilitates precise diagnosis and tailored treatment approaches.

CLINICAL IMPACT
The clinical ramifications of our research are substantial. WHO's stance in 2021 confirms that oligodendrogliomas do not manifest in children. Tumors exhibiting similar characteristics in pediatric cases should not be categorized or treated under the designation of oligodendrogliomas. Instead, comprehensive sequencing or methylation profiling should be conducted to ensure accurate categorization and characterization of such tumors.

3.	Dandapath, I., Gupta, R., Singh, J., Shukla, N., Jha, P., Sharma, V., Suri, A., Sharma, M. C., **Suri, V.,** Sarkar, C., & Kulshreshtha, R. Long Non-coding RNA and mRNA Co-expression Network Reveals Novel Players in Pleomorphic Xanthoastrocytoma Molecular neurobiology, 2022;59(8):5149-5167.	Original Article	**Corresponding Author**	5.5 Pubmed Indexed

The comprehensive gene expression analysis of pleomorphic xanthoastrocytoma (PXA) sheds light on its molecular signatures, revealing similarities with glioma patients. Identification of hub genes, pathways, and lncRNA-mRNA interactions offers insights into PXA biology.

CLINICAL IMAPCT
Additionally, potential biomarkers linked to patient survival could pave the way for improved diagnostic and therapeutic approaches, enhancing the clinical understanding of PXA.

4.	Singh J., Dandapath I, Jha P., Shukla, N., Gupta R., Katiyar A., Sharma V., Mahajan S., Chaturvedi S., Ahuja A., Bhardwaj M., Saran R., Garg A., Sharma M. C., Manjunath N., Suri A., Kulshreshtha R., Sarkar C., **Suri V.** Gene expression based profiling of pleomorphic xanthoastrocytoma highlights two prognostic subgroups. American journal of translational research 2022; 14(2), 1010–1023.	Original Article	**Corresponding Author**	4.06 Pubmed Indexed

The study focused on pleomorphic xanthoastrocytoma (PXA), a rare brain tumor seen in pediatric age group, adolecents and young adults. We used gene expression profiling to uncover distinct molecular subgroups within PXA. This breakthrough revealed two clusters of tumors, transcending histological grades. These clusters correlated with different outcomes – cluster 1 had better progression-free survival. The study identified genes associated with these clusters, potentially aiding prognosis and treatment decisions. Notably, this approach proved more predictive than traditional markers like BRAF mutation. **CLINICAL IMPACT** This pioneering work suggests a new way to classify PXA and opens doors for prognostication and personalized treatments. We are in the process of validating these markers				
5.	Manjunath N, Jha P, Singh J, Raheja A, Kaur K, Suri A, Garg A, Sharma MC, Sarkar C, Mohan M, Mani K, **Suri V**. Clinico-pathological and molecular characterization of diffuse midline gliomas: is there a prognostic significance? Neurol Sci. 2021 Mar;42(3):925-934.	Original Article	**Corresponding Author**	2 Pubmed Indexed
This study extensively characterizes diffuse midline gliomas (DMGs) with H3K27M mutation across ages, revealing distinct demographic, molecular, and radiological features. The research establishes the utility of IHC-based H3K27M mutation assessment and emphasizes the uniformly poor prognosis of DMGs, regardless of age, location, or H3K27M status. Additionally, the identification of adjuvant therapy impact on adult survival underscores potential treatment considerations. **CLINICAL IMPACT** These insights contribute to better understanding and management of DMGs, facilitating targeted therapeutic investigations and prognostic assessment.				
6.	Jha, P., Manjunath, N., Singh, J., Mani, K., Garg, A., Kaur, K., Sharma, M.C., Raheja, A., Suri, A., Sarkar, C. and **Suri V.** Analysis of PD-L1 expression and T cell infiltration in different molecular subgroups of diffuse midline gliomas. Neuropathology 2019, 39: 413-424.	Original Article	**Corresponding Author**	2.3 Pubmed Indexed

This groundbreaking study delves into the intricate relationship between immune profiles and molecular subgroups of diffuse midline gliomas (DMGs). It emphasizes the potential of PD-L1 expression as a predictive biomarker for immunotherapy, particularly in certain genetic contexts. The research underscores the need for targeted therapies in the face of limited treatment options for these devastating tumors.

CLINICAL IMPACT

There is a need for targeted clinical trials involving specialized immune checkpoint inhibitors to investigate whether responses to these treatments are influenced by PD-L1/TIL expression patterns, patient age, or molecular subtypes. The unique insights provided by this study will play a pivotal role in tailoring innovative immunotherapeutic strategies for managing DMGs, ultimately propelling these strategies into clinical trials.

7.	Battu S, Kumar A, Pathak P, Purkait S, Dhawan L, Sharma MC, Suri A, Singh M, Sarkar C, **Suri V**. Clinicopathological and molecular characteristics of pediatric meningiomas. Neuropathology. 2018 Feb;38(1):22-33.	Original Article	**Corresponding Author**	2.3 Pubmed Indexed

Pediatric meningiomas are exceedingly rare. In this study, we discovered that the prevalent genetic mutations observed in adult meningiomas, such as AKT, SMO, KLF4, TRAF7, and pTERT, were notably absent in pediatric cases. This absence indicates a distinct genetic landscape unique to pediatric meningiomas. Interestingly, the frequency of 1p/14q co-deletion displayed no significant difference between low and high-grade tumors, hinting at an inherent aggressiveness in pediatric cases regardless of grade.This study advances our understanding of these rare tumors and guides future research and clinical approaches.

CLINICAL IMPACT

Findings from this study shed light on the distinct molecular characteristics of pediatric meningiomas, indicating the need for specialized approaches in their diagnosis, treatment, and prognosis.

8.	Suman S, Sharma R, Katiyar V, Mahajan S, Suri A, Sharma MC, Sarkar C, **Suri V**. Role of CDKN2A deletion in grade 2/3 IDH-mutant astrocytomas: need for selective approach in resource-constrained settings. Neurosurgery Focus. 2022 Dec;53(6):E17.	Original Article	**Corresponding Author**	3.096 Pubmed Indexed

This study aimed to assess the frequency of a specific genetic deletion (CDKN2A) in IDH-mutant astrocytomas and determine when FISH assay for this deletion would be most cost-effective. We documented that that CDKN2A deletion was rare in lower-grade tumors and proposed a selective approach for using CDKN2A assay based on specific histomorphological features, loss p16 expression, or tumor recurrence. This strategy could help save costs and resources while effectively identifying cases with the deletion, which is associated with a poor prognosis.

CLINICAL IMPACT

The selective approach for assessment of CDKN2A deletion in IDH mutant astrocytomas in present study offers a valuable strategy for cost-effective genetic assessment in resource-limited clinical contexts, ultimately enhancing diagnostic precision and patient care.

9.	Singh J, Sharma R, Shukla N, Narwal P, Katiyar A, Mahajan S, Sahu S, Garg A, Sharma MC, Suri A, Sarkar C, **Suri V**. DNA methylation profiling of meningiomas highlights clinically distinct molecular subgroups. *J Neurooncol.* 2023;161(2):339-356	Original Article	**Corresponding Author**	4.5 Pubmed Indexed

The study utilized comprehensive DNA methylation profiling, copy number analysis, targeted sequencing, and gene expression analysis and categorize meningiomas into four distinct molecular subgroups: Malignant, Intermediate, Benign A, and Benign B. Notably, molecular heterogeneity was observed within the same tumor grade. Specific genetic mutations were associated with distinct methylation subgroups, and certain genetic losses were consistently present across all subgroups. The findings also highlighted dysregulation of thousands of genes among the subgroups. The DKFZ classification showed favorable accuracy in identifying the subgroups. Furthermore, the study demonstrated the significant impact of methylation profiling on predicting progression-free survival in WHO grade 1 and 2 meningiomas. Overall, the research underscores the potential of molecular profiling in redefining meningioma classification, prognosis prediction, and treatment strategies.

CLINICAL IMPACT

By shedding light on the clinical diversity of meningiomas and their potential for molecularly-guided classification, prognostic prediction, and treatment strategies, this research introduces a transformative approach that could reshape the diagnostic and therapeutic landscape of these tumors.

10.	Kumari K, Dandapath I, Singh J, Rai HIS, Kaur K, Jha P, Malik N, Chosdol K, Mallick S, Garg A, Suri A, Sharma MC, Sarkar C, **Suri V**. Molecular Characterization of IDH Wild-type Diffuse	Original Article	**Corresponding Author**	1.76 Pubmed Indexed

	Astrocytomas: The Potential of cIMPACT-NOW Guidelines. Appl Immunohistochem Mol Morphol. 2022 Jul 1;30(6):410-417.			

The study analyzed 53 IDH wild-type grade 2/3 astrocytomas and reclassified 20.75% as aggressive molecular glioblastomas with specific genetic alterations, including TERT promoter mutations, EGFR amplification, and whole chromosome 7 gain and chromosome 10 loss. These reclassified tumors showed clinical behavior akin to glioblastomas, with similar median survival. Tumors harboring TERT promoter mutations and EGFR amplification demonstrated poorer survival outcomes, emphasizing the significance of integrated molecular diagnostics in predicting tumor behavior and guiding treatment strategies.

CLINICAL IMPACT

The study's findings emphasize the importance of incorporating molecular markers into the diagnosis and classification of IDH-wt grade 2/3 DAGs. By doing so, researchers and clinicians can better identify those tumors that exhibit aggressive clinical behavior and tailor treatment strategies accordingly.