

Past scientific research projects completed and research experience

I have worked on multiple clinical research projects in radiation oncology, contributing to key studies in diverse cancer types. My work includes evaluating the outcomes of cervical cancer in HIV-positive women treated with radiotherapy, thyroid cancers treated with radiotherapy, and unresectable oral cavity cancers receiving definitive radiotherapy and total body irradiation prior to hematopoietic stem cell transplantation. These studies have provided valuable insights into optimizing the treatment strategies for these patient populations. Additionally, I have completed multiple dosimetric studies, such as evaluating various techniques for lymph nodal boosts in node-positive cervical cancer and assessing the delivery of intensity-modulated radiation therapy (IMRT) in mediastinal lymphoma. I have also been involved in knowledge based planning of radiation therapy planning of nasopharyngeal and cervical cancers. Most of these studies have been published in reputed international journals. I am currently involved in multiple clinical trials in head and neck oncology including randomised controlled trials as well as studies on quality improvement in radiation oncology.

Publications

1. Mohanty S, Gurram L, Chopra S, Mahantshetty U, Grover S. Cervical Cancer Treatment in HIV-Positive Patients: A Survey of Treatment Practices in India. *JCO Glob Oncol*. 2021;7:843-848. doi:10.1200/GO.21.00081
2. Mohanty S, Hajare R, Gurram L, et al. Dosimetric comparison of sequential intensity-modulated radiation therapy (IMRT) and simultaneous integrated boost IMRT for lymph node-positive cervical cancer. *Journal of Radiotherapy in Practice*. 2023;22:e113. doi:10.1017/S1460396923000365
3. Mohanty S, Patil D, Joshi K, et al. Dosimetric Impact of Voluntary Deep

Inspiration Breath Hold (DIBH) in Mediastinal Hodgkin Lymphomas: A Comparative Evaluation of Three Different Intensity Modulated Radiation Therapy (IMRT) Delivery Methods Using Voluntary DIBH and Free Breathing Techniques. *Cancers (Basel)*. 2024;16(4):690. Published 2024 Feb 6. doi:10.3390/cancers16040690

4. Gurram L, Mohanty S, Chopra S, et al. Outcomes of Cervical Cancer in HIV-Positive Women Treated With Radiotherapy at a Tertiary Care Center in India. *JCO Glob Oncol*. 2022;8:e2100312. doi:10.1200/GO.21.00312
5. Scheltes D, Mohanty S, Smits G, van der Steen-Banasik E, Murthy V, Hoskin P. Improving Quality of Life with Brachytherapy for Urological Malignancies. *Clin Oncol (R Coll Radiol)*. 2023;35(8):516-523. doi:10.1016/j.clon.2023.01.017
6. Swamidas, S Pradhan, S Chopra, S Panda, Y Gupta, S Sood, S Mohanty, J Jain, K Joshi, R Ph, L Gurram, U Mahantshetty, J P Agarwal. Development and clinical validation of Knowledge-based planning for Volumetric Modulated Arc Therapy of cervical cancer including pelvic and para aortic fields. *Physics and Imaging in Radiation Oncology*. 2021;18:61-67. doi:10.1016/j.phro.2021.05.004.
7. Bajpai J, Ventrapati P, Joshi S, et al. Unique challenges and outcomes of young women with breast cancers from a tertiary care cancer centre in India. *Breast*. 2021;60:177-184. doi:10.1016/j.breast.2021.09.008
8. Shwetabh Sinha, Anuj Kumar, Guncha Maheshwari, Samarpita Mohanty, Kishore Joshi, Prakash Shinde, Deeksha Gupta, Shrikant Kale, Reena Phurailatpam, Monali Swain, Ashwini Budrukhar, Rajesh Kinhikar, Sarbani Ghosh-Laskar. Development and Validation of Single-Optimization Knowledge-Based Volumetric Modulated Arc Therapy Model Plan in Nasopharyngeal Carcinomas, *Advances in Radiation Oncology*, 2023, 101311, ISSN 2452-1094, <https://doi.org/10.1016/j.adro.2023.101311>
9. Ghosh Laskar S, Sinha S, Kumar A, et al. Reducing Salivary Toxicity with Adaptive Radiotherapy (ReSTART): A Randomized Controlled Trial Comparing Conventional IMRT to Adaptive IMRT in Head and Neck Squamous Cell Carcinomas. *Clin Oncol (R Coll Radiol)*. 2024;36(6):353-361. doi:10.1016/j.clon.2024.03.015

10. Ashwini Budrukhar, Maneesh Singh, Monali Swain, Sarbani Ghosh Laskar, Vedang Murthy, Shrikant Kale, Rituraj Upreti, Shwetabh Sinha, Anuj Kumar, Samarpita Mohanty, Tejpal Gupta, Jai Prakash Agarwal, Interstitial brachytherapy for periocular nonmelanoma skin cancers: Impact on organ and function preservation, Technical Innovations & Patient Support in Radiation Oncology, Volume 32, 2024, 100280, ISSN 2405-6324, <https://doi.org/10.1016/j.tipsro.2024.100280>

Conference Presentations:

1. Outcomes of Cervical Cancer in Human Immunodeficiency Virus (HIV) positive women treated with Radiotherapy at a tertiary care centre in India: Poster presentation in the Annual Global Meeting of the International Gynecologic Cancer Society (IGCS 2021) held from 29th August 2021 to 2nd September 2021 in Rome, Italy
2. External Beam Radiotherapy in Differentiated and Medullary Thyroid Cancers: An Audit of Clinical Practice: Oral presentation at 3rd National meeting of Indian Society of Thyroid Surgeons, August 2018
3. Adjuvant External Beam Radiotherapy in Differentiated Thyroid Cancers- updated results: Oral presentation at 3rd Indian Cancer Congress, Mumbai, November 2023
4. Definitive radiotherapy in Oral Cavity Cancer treated with Intensity-modulated radiotherapy(IMRT): A single center experience: Poster presentation at YROC, Lucknow in February 2023
5. Cervical Cancer Treatment in HIV-Positive Patients: A Survey of Treatment Practices in India: Poster presentation at Apollo Cancer Conclave, Chennai, 24th January 2019
6. Dosimetric analysis of sequential IMRT vs simultaneous integrated boost for lymph node-positive cervical cancer: Poster presentation at ESTRO 2021 held in Aug 2021 in Madrid