



ANNUAL RESEARCH REPORT

RESEARCH SUPPORT DIRECTORATE *2021*

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FROM DIRECTOR'S DESK

I am delighted to share the annual report of the Research Support Directorate for the year 2021 with you. As the management of cancer evolves, it is incumbent upon us to devise newer and more effective protocols, incorporate latest technologies, innovate cost-appropriate strategies for the population we serve and address the concerns and attitudes of the society we operate in.



This evolution can only be engendered by a spirit of inquiry, learning from failures and a relentless pursuit of excellence. We see it in ample measure at Tata Medical Center with 14 investigator-initiated projects and over 130 publications during the last year, many from young TMCians.

The efforts of the Research Support Directorate are laudable and I am confident that in the years to come, the prevailing tempo would not only quicken but gain consequence in quality and relevance.

We must also be aware of the responsibility of bestowing upon our trainees the nuances and skills of effective research methodology so that the culture of research suffuses out to the wider world for the greater good of our patients.

A handwritten signature in black ink, appearing to read 'Pattatheyil Arun'.

With best wishes

Pattatheyil Arun

Foreword

I am delighted to share the annual research report of Tata Medical Center for the year 2021 with you. The report compiles all the research projects and publications driven and authored by members of TMC family and is the result of a team effort driven by Dr Sanjit and Dr Prateek along with the support of the other members of the Research Directorate (RSD).



At TMC research is being promoted actively and the number/scope of research projects/ activities have increased substantially with collaborations between the various departments within TMC and with other national and international research groups. The Research Directorate continues to actively support the research activities and the RSD team evaluated and supported 17 new research proposals last year.

The RSD started the Tata Research Academic Initiative (TRAIN) to educate the young investigators, fellows and post graduate students on research methodology, basics of bio- statistics, genomics and other topics relevant and essential to support translational research.

Last year Dr Shiladitya Bose joined the RSD and we bid farewell to Dr Vivek Radhakrishnan and Dr Sravya Chitturi. The integral activities of RSD were taken over by Satadru Dey who replaced Sukanya whose contributions in streamlining the day to day management of the RSD activities is still prevailing.

As we move ahead into the New Year the RSD looks forward to address other issues and challenges faced by the research community at TMC and I would like to thank all the members of RSD for their continuous and ever enthusiastic support.

A handwritten signature in blue ink, reading "Mayur Parihar", with a horizontal line underneath.

With best wishes

Mayur Parihar

Chairperson RSD

DEPARTMENT OF ANESTHESIA, CRITICAL CARE & PAIN

Dr Jyotsna Goswami

MBBS, MD, Senior Consultant & Head
Anesthesia, Critical Care & Pain

Dr Neha Desai

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consultant, Anaesthesia

Dr Rakhi Khemka Mittal

MBBS, MD, Senior Consultant, Anaesthesia

Dr Angshuman R Pal

MBBS, MD, Junior Consultant, Anaesthesia

Dr Sonal Rastogi Das

MBBS, MD, PDCC in Neuro Anaesthesia, Senior
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Dr Suparna Mitra Barman

MBBS, MD, Junior Consultant, Anaesthesia

Dr Anshuman Sarkar

MBBS, MD, Senior Consultant, Anaesthesia

Dr Sumantra Sarathi Banerjee

MBBS, MD, Junior Consultant, Anaesthesia

Dr Arunangshu Chakraborty

MBBS, MD, Associate Consultant, Anaesthesia

Dr. Rudranil Nandi

MBBS, MD, DM (Onco-Anesthesia) (AIIMS)
Junior Consultant, Anaesthesia & Pain

Dr Aditi Gupta

MBBS, FCARCSI, Consultant, Anaesthesia

Dr Sudipta Mukherjee

MBBS, MD, Junior Consultant, Critical Care

Dr Viplab Patro

MBBS, DNB, Associate Consultant,
Anaesthesia

Dr Pralay Shankar Ghosh

MBBS, MD, Junior consultant, Critical Care

Dr Shantanu Bagchi

MBBS, MD-Anaesthesia, FNB (Critical Care
Medicine), Junior consultant, Critical Care

RESEARCH PROJECTS

1. Anemia: Impact on Morbidity (AIM)
(Investigator initiated, PI Dr Suparna Mitra Barman)
2. ERAS in colorectal surgeries.
(Investigator initiated, PI Dr Angshuman Rudra Pal).
3. Goal Directed Fluid Therapy in HIPEC surgeries. (Investigator initiated, PI Dr Viplab Patro).
4. Impact of Perioperative factors on Postoperative Mechanical Ventilation (POMV) of patients undergoing hyperthermic intraperitoneal chemotherapy (HIPEC): A retrospective analysis (Investigator initiated, PI Dr. Suparna Mitra Barman).
5. Pre-operative respiratory care and outcomes for patients undergoing high risk abdominal surgery: A 2*2 factorial, international pragmatic randomized trial(PENGUIN)-
(Investigator initiated, PI Dr. Viplab Patro)
6. Ropivaccaine 0.2%+Fentanyl 2kg/ml versus Epidural morphine 3mg+bupivaccaine bolus in G.I surgery.
(Investigator initiated, PI Dr. Dr. Rudranil Nandi)
7. Pain Clinic Audit. (Investigator initiated, PI Dr. Dr. Rudranil Nandi)

RESEARCH PUBLICATIONS

1. **Nandi R, Bhajikhav K, Gupta N, Pal AR, Desai N, Goswami J.** Awake tracheal intubation during COVID-19 pandemic: An audit of 23 cases in a tertiary cancer centre. *Airway*. 2021;4:79-84
2. **Goswami J, Sarkar A, Mukherjee S, Ghosh PS, Pal AR, Barman SM, et al.** COVID-19 pandemic and preparedness of anaesthesia team in a stand-alone cancer centre in Eastern India. *J Anaesthesiol Clin Pharmacol*. 2021; 37:284-9.
3. **Goswami J, Lal J, Bhosale GP, Sinha A, Madhavi J.** Exploring new frontiers: Organ transplant anaesthesia or bariatric anaesthesia. *Indian J Anaesth*. 2021;65:23-8
4. **Mukherjee S, Kumar G, Mukherjee A, Ravendra K. Sharma R, Menon G, Sahu D, Wig N, Panda S, Rao V V, Singh S, Guleria R, Bhargava B.** National Clinical Registry for COVID-

19 Team. Clinical profile of hospitalized COVID-19 patients in first & second wave of the pandemic: Insights from an Indian registry based observational study. *Indian J Med Res.* 2021 May-Jun; 153(5-6): 619–628. doi: 10.4103/ijmr.ijmr_1628_21

5. **Mukherjee S, Vijay S, Bansal N, Rao B.K, Veeraraghavan B, Rodrigues C,**

Wattal C, Goyal J P, Tadeipalli K, Mathur P, Baveja S Venkateswaran R, Walia K, Venkatasubramanian R, Khadanga S, Bhattacharya S, S Sistla, Panda S. Secondary Infections in Hospitalized COVID-19 Patients: Indian Experience. *Infect Drug Resist.* 2021; 14: 1893–1903. doi: 10.2147/IDR.S299774

EXTERNAL ACADEMIC MEETINGS

1. National Conference. National Conference of Society of Onco-anaesthesia & Perioperative Care (SOAPCCON 2021 Virtual).
2. Webinar series. Onco-anaesthesia for Kolkata Society of Anaesthesia (Dr.

Jyotsna Goswami as president of Kolkata Society of Anesthesia (KSA), organized the webinar series).

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Dr Abhishek Sharma

MBBS, MS (Gen. Surg.), MRCS), Associate Consultant.

RESEARCH PROJECTS

1. Additional Biomarker for TNBC – BIOTN 001. (PI Dr. Sanjit Agrawal)
2. COVID surg multicentric Study. (Pi Dr. Abhishek Sharma)

RESEARCH PUBLICATIONS

1. **Kumar Agrawal S, Kewlani V, Priya N, Sharma A, Ghosh J, Chatterjee S, et al.** Effect of non-sentinel metastasis on adjuvant treatment decisions and survival in 20011 eligible non-screened detected breast cancer population. *Ecancer* [Internet]. 2021 Nov 26 [cited 2021 Dec 18]; 15. <https://ecancer.org/en/journal/article/1324>
2. **Sharma A, Mahajan S, Agrawal SK, Ahmed R, Dey D.** Assessment of skin response in T4b breast carcinoma patient's post-neoadjuvant chemotherapy. *Ecancermedicalscience*. 2021 Jul 28; 15:1271.
3. **Arun I, Venkatesh S, Ahmed R, Kumar Agrawal S, Leung SCY.** Reliability of Ki67 visual scoring app compared to eyeball estimate and digital image analysis and its prognostic significance in hormone receptor positive breast cancer. *APMIS*. 2021 May 30. Doi: 10.1111/apm.13156.

4. **Agrawal S.K, Priya N, Agarwal P, Sharma A, Datta S.S, Deo, S.V.S, Ahmed R.** 2021. Trends in Axillary Management of Early Breast Cancer: a Questionnaire-Based Pattern of Practice Survey for India. *Indian J Surg Oncol*.
<https://doi.org/10.1007/s13193-021-01334-4>
5. **Ghosh J, Chatterjee M, Ganguly S, Datta A, Biswas B, Mukherjee G, Agarwal S, Ahmed R, Chatterjee S, Dabkara D.** PDL1 expression and its correlation with outcomes in non-metastatic triple-negative breast cancer (TNBC) [WWW Document]. 2021.
<https://doi.org/10.3332/ecancer.2021.1217>
6. COVIDSurg Collaborative, G.C., 2021. SARS-CoV-2 vaccination modelling for safe surgery to save lives: data from an international prospective cohort study. *British Journal of Surgery*.
<https://doi.org/10.1093/bjs/znab101>
7. Timing of surgery following SARS-CoV-2 infection: an international prospective cohort study, n.d. Anaesthesia n/a.
<https://doi.org/10.1111/anae.15458>
8. **Bakkach J, Pellegrino B, Elghazawy H, Novosad O, Agrawal S, Bennani Mechita M.** Current overview and special considerations for second breast cancer in Hodgkin lymphoma survivors. *Critical Reviews in Oncology/Hematology*. 2021 Jan 1;157:1

EXTERNAL ACADEMIC MEETINGS

1. Tata Annual Biostatistics and Clinical Research Methodology. BIOCRM – September 2021. (80 delegates National and International applicants)
2. E cancer Breast Module. TMC - E CACNER Skills development workshop. (300 delegates National and International applicants)

Prof Dr Mammen Chandy

Director, Tata Medical Center
M.D., FRACP, FRCPA, FRCP, D.Sc.

Dr Jeevan Kumar

M.D., DNB (Hem), PDF (Clinical Hem, BMT),
Associate Consultant

Prof Dr Reena Nair

M.D. (Medicine), Senior Consultant

Dr Rizwan Javed

MD (Path), PDF (Transfusion Med), MSc,
Junior Consultant

Dr Saurabh Jayant Bhawe

M.D., PDF (Hem, BMT), Senior Consultant

Dr Arijit Nag

M.D., D.M. Junior Consultant

OVERVIEW OF RESEARCH

Department of Clinical Hematology & Cellular therapies is involved mainly clinical trials that include investigator initiated (IIT) and sponsored drug trials. Presently are 18 drug trials (six on-going, five closed & seven upcoming) and 13 registry trials (eleven on-going, one closed & one upcoming). The clinical trial unit became functional in 2013, and since then, several IITs, have successfully been conducted in lymphoma, multiple

myeloma and myeloid malignancies. Presently, the clinical faculty is supported by fourteen trial co-ordinators and the department fellows. The hematopoietic cellular therapy (HCT) unit reports bone marrow transplant data to the Center for International Blood and Marrow Transplant Research (CIBMTR) and the Indian Society for Blood and Marrow Transplantation (ISBMT).

RESEARCH PROJECTS

1. Acute Myeloid Leukemia: Exploring the feasibility of Multi-Modal-Omics based Genomic characterization, MRD evaluation and Computational drug modelling to inform Disease management. ALTITUDE Study. (PI Saurabh Bhawe & MayurParihar)
2. Effect of Pomalidomide- Bortezomib- Dexamethasone Induction on MRD status in patients with newly

- diagnosed Multiple Myeloma, PRIME Study. (PI Jeevan Kumar)
3. R-BED Study: Phase II study of Bortezomib, Etoposide, Dexamethasone combination therapy, with or without Rituximab, in Adult Relapsed or Refractory, B-cell Acute Lymphoblastic Leukemia who are transplant ineligible. (PI Dr Arijit Nag)
 4. RIC-FT10: Reduced Toxicity and Reduced Intensity conditioning regimen using Fludarabine and Treosulfan for high-risk haematological malignancies undergoing allogenic hematopoietic cell transplantation. (PI Saurabh Bhawe)
 5. National Lymphoma Registry Project: Database. (PI Reena Nair).
 6. National CML Registry Project. (PI Jeevan Kumar).
 7. Institutional Acute Myeloid Leukaemia and MDS. (PI Reena Nair).
 8. International T-cell Lymphoma Project v2.0. (PI Reena Nair).
 9. CRIMSON Project: Database formation of details of cancer patients receiving immunotherapy and precision medicine in Tata Medical Center. (PI Dr Jeevan Kumar).
 10. CIBMTR Registry: [CIBMTR (Center for International Blood & Marrow Transplant Research)], Hematopoietic Cell Transplantation and Cellular Therapies). (PI – Dr Jeevan Kumar; Dr Arijit Nag).
 11. National IMAGE Study: Multiple Myeloma. (PI – Dr Jeevan Kumar).
 12. Lymphoma: RITUXIMAB generic (Reditux):Promise Registry to compare Effectiveness, Safety, and Resource Utilization of Reditux (Rituximab) vs. the reference Medicinal product to treat Diffuse Large B –Cell lymphoma and Chronic Lymphatic Leukemia in Routine Clinical Practice. (PI – Dr Reena Nair).
 13. A Phase 1 Study (SPARC): to Determine Safety, Tolerability, Pharmacokinetics, and Activity of K0706, a Novel Tyrosine Kinase Inhibitor (TKI), in Subjects with Chronic Myeloid Leukemia (CML) or Philadelphia Chromosome Positive Acute Lymphoblastic Leukemia (Ph+ALL). (Pi – Dr Arijit Nag).
 14. A phase 4 study (DARZALEX): A Prospective, Single-Arm, Multicenter, Pragmatic Phase-IV Trial Investigating Safety and Effectiveness of DARZALEX (Daratumumab) In Indian Subjects with Relapsed and Refractory Multiple Myeloma, Whose Prior Therapy Included a Proteasome Inhibitor and an Immuno modulatory Agent. (Pi – Dr Jeevan Kumar).
 15. A phase 3 study (Sabatolimab):A randomized, double-blind, placebo

controlled phase III multi-center study of azacitidine with or without MBG453 for the treatment of patients with intermediate, high or very high risk myelodysplastic syndrome (MDS) as per IPSS-R, or Chronic Myelomonocytic Leukemia-2 (CMML-2). (PI – Dr Arijit Nag).

16. A phase 4 study (Calquence): A prospective, multi-centre, phase IV clinical trial to assess the safety and efficacy of Acalabrutinib capsules in Indian adult patients with chronic lymphocytic leukaemia and relapsed and refractory mantle cell lymphoma. (PI – Dr Saurabh Jayant Bhawe).

17. A phase 4 study (IMBRUVICA): A prospective multicenter, open label single arm phase IV clinical trial to assess safety of Imbruvica™ (Ibrutinib capsules 140mg) in Indian patients with CLL or MCL who have received at least one prior therapy or CLL with 17p deletion. (PI – Dr Arjit Nag).

18. A phase 3 study (PolarGo): Open - Lable, multicenter, randomized study evaluation study evaluation the safety and efficacy of PolatuzumabVedotin in combination with Rituximab plus Oxaliplatin (R-GEMOX) versus R-Gemox alone in-patient with relapsed/refractory Diffuse Large B-

cell Lymphoma. (PI – Dr Saurabh Jayant Bhawe).

19. A phase 3 study (CABL001): A multi-center, open-label, randomized study of oral asciminib versus Investigator selected TKI in patients with newly diagnosed Philadelphia Chromosome Positive Chronic Myelogenous Leukemia in Chronic Phase. (PI – Dr Jeevan Kumar).

20. A randomized, 2-arm, phase 3 study of elranatamab (pf-06863135) versus lenalidomide in patients with newly diagnosed multiple myeloma who are minimal residual disease-positive after undergoing autologous stem-cell transplantation. (PI – Dr Jeevan Kumar).

21. An open-label, 3-arm, multicenter, randomized phase 3 study to evaluate the efficacy and safety of elranatamab (pf-06863135) monotherapy and elranatamab + daratumumab versus daratumumab + pomalidomide + dexamethasone in participants with relapsed/refractory multiple myeloma who have received at least 1 prior line of therapy including lenalidomide and a proteasome inhibitor. (PI – Dr Jeevan Kumar).

22. A Phase 2, Randomized, Parallel, Open Label Study to Investigate the Safety, Efficacy, and Pharmacokinetics of Various Dosing Regimens of Single

Agent Belantamab Mafodotin (GSK2857916) in Participants with Relapsed or Refractory Multiple Myeloma (DREAMM 14). (PI – Dr Jeevan Kumar).

23. KCP-330- 023: A phase 3 study (BOSTON): Randomized, controlled, open label study of selinexor, bortezomib, and dexamethasone (svd) versus bortezomib and dexamethasone (vd) in patients with relapsed or refractory multiple myeloma (rrmm) karyopharm. (PI – Dr Jeevan Kumar).

24. A Randomized, Multi Center, Double - blind, Parallel group study to compare the pharmacokinetics, Pharmacodynamics, Safety and

Efficacy of two anti-CD 20 monoclonal antibodies in combination with CHOP in patients with CD 20- positive Diffuse Large B-Cell Lymphoma. (PI – Dr Reena Nair).

25. A multicenter, Retrospective medical record review study to describe real- world treatment patterns and safety among patients receiving Rituximab [mabthera or Reditux] to treat B-Cell non Hodgkin lymphoma in India. (PI – Dr Reena Nair).

RESEARCH PUBLICATIONS

1. **Devadas S, Jain H, Bagal B, Sengar M, Dangi U, Khatry N, Amre P, Patker N, Subramaian PG, Nair R, Menon H.** Sequential treatment of Arsenic trioxide followed by All tranretinoic acid with anthracyclines has excellent long-term cure in Acute promyelocyticleukemia. *Indian J Hematol Blood Transfus.* 2021; 37(1):30–36.
<https://doi.org/10.1007/s12288-020-01311-x>
2. **Radhakrishnan V, Poddar , Mukherjee H, Mandal P, Kumar J, Bhav S, Nag A, Javed R, Achari R,**

Dey D, Arun I, Latif Z, Arora N, Mishra D, Chandy M, Nair R. Primary Central Nervous System Lymphoma: Long-Term Treatment Outcomes and Cost-Analysis from a Retrospective Study of High-Dose Methotrexate Based Chemoimmunotherapy and Reduced Dose Radiation Therapy Approach. *Ind J Hemat & Bld Trans.* 2021.

DOI: 10.1007/s12288-021-01444-7

3. **Sarker C, Radhakrishnan V, Mandal P, Kumar J, Bhav S, Achari R, Dey D, Arun I, Latif Z, Arora N, Mishra D, Chandy M, Nair R.** Outcomes of

- Diffuse Large B-Cell Lymphoma in Elderly patients- real world experience from a middle-income country setting. *Ecancer*. 2021; 15:1242.
doi.org/10.3332/ecancer.2021.1242
4. **Nair R, Radhakrishnan V, Mallath MK.** Rituximab biosimilars for B-cell lymphomas: a decade of real world experience from India. Aug 2021;8:e548-e549
www.thelancet.com/haematology
DOI:[https://doi.org/10.1016/s2352-3026\(21\)00212-x](https://doi.org/10.1016/s2352-3026(21)00212-x)
 5. **Nair R, Radhakrishnan V.** How I treat Acute Promyelocytic Leukemia. *Ind J Ped & Med Oncol*. 2021; 42:286-292.
doi.org/10.1055/s-0041-1732942
ISSN0971-5851.
 6. **Javed R, Flores L, Bhav SJ, Jawed A, Mishra DK.** The Future of Red Cell Transfusion Lies in Cultured Red Cells. *Indian Journal of Medical and Paediatric Oncology*. 2021; 42:528–532.
 7. **Javed R, Roychowdhury M, Bhav S, Nag A, Kumar J, Radhakrishnan V, Bhattacharya S, Mishra DK, Ghara N, Reghu RS, Nair R, Chandy M.** Impact of COVID-19 on peripheral stem cell collection and preservation at a hematopoietic cell transplant center in India: Experience 2020. *Blood Cell Therapy*. 2021 4: 84-88.
<https://bct.apbmt.org/data/bct-2021-004/bct-2021-004.pdf>

CONFERENCE PRESENTATIONS

1. Annual National Hematology Conference. Haematocon. Nov'21. (Clinical Faculty members were invited as speakers).
2. Annual National Hematology Conference. Haematocon. Nov'21. (Dr Rizwan presented a poster titled Assessment of quality parameters in peripheral stem cell collection: A one-year audit).
3. Bengal Society of Haematology Annual conference. BeSHCON. Feb' 2021. (Dr Jeevan Kumar presented Treating CML when first line fails).
4. Annual National Hematology Conference. Haematocon. Nov'21. (Dr Jeevan kumar presented Oral Azacitidine-Hope or Hype).
5. Thrombocytopenia conference. Delete the Bleed. Sep 2021. (Dr Jeevan kumar presented- What's new in chemotherapy induced thrombocytopenia).
6. East West Hematology connect. Hematology connect. July'21. (Dr

Jeevan kumar participated in case based discussion of Acalabrutinib in

CLL).

HONOURS, AWARDS & FELLOWSHIPS

1. Dr. Reena Nair - APARAJITHA, Sanmarg 10th Annual Award 2021 "You inspire" in the category of Health and Wellness.
2. Dr. Reena Nair - Indian Society of Medical & Pediatric Oncology Oration

2021 "Improving Outcomes of Curable Lymphomas with Constrained Resources".

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Debabrata Basu,

Associate Scientific Officer M.Sc. (Environmental Science)

RESEARCH PUBLICATIONS

1. **Basu D, Dutta SK, Bag SC, Das A, Rozario JD.** Is adenosine triphosphate test really required in hospital sterile supply quality monitoring purposes: An observation done in an oncology centre in Eastern India. *J Acad Clin Microbiol.* 2022.
2. **Basu D, Mondal P, Rafikul SK, Ghorai S.** Benefits and limitations of external calibration required to validate the physical parameters of an autoclave: A brief discussion from an oncology centre in eastern India. *J Acad Clin Microbiol.* 2022.

EXTERNAL ACADEMIC MEETINGS

1. Science of terminal sterilization (SOTS) Workshop (24th December 2021)

HONOURS, AWARDS & FELLOWSHIPS

1. Debabrata Basu and CSSD team
 - a. CAHO certification on CSSD audit (Award)
2. Debabrata Basu
 - a. Diploma in operation theatre technologist course in TMC (Fellowships)
 - b. M.Sc in Molecular Medical Microbiology course in TMC (Fellowships)

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1. Debabrata Basu (0000-0002-1250-4973)

Dr Mayur Parihar

MBBS, MD, PDF, Senior Consultant

OVERVIEW OF RESEARCH

In 2021 we continued our research on refining genetic risk stratification in acute leukemias and developing cost effective efficient strategies for risk stratification of haematological malignancies. The team developed, validated and published a systematic cytogenetic strategy to identify hidden hypodiploidy, a high risk genetic marker in B cell precursor B cell ALLs. We validated and standardised a FISH based strategy to identify intragenic deletions of IKZF1 gene in BCP-ALLs. The deletions of the gene are associated with treatment failure in childhood and adult ALLs.

Our research also focussed on dissecting out heterogeneity in response to therapy in cytogenetically defined subgroups in BCP-ALLs.

Our investigations identified a high frequency of acquired whole chromosome uniparental isodisomy (wUPD) in our cohort of high hyperdiploid ALL. Though wUPD in HH ALL has been described previously, no detailed

comparison of HH ALL with and without wUPD has been performed. Our investigations highlight the difficulties in dissecting different characteristics in a cancer with high copy number alterations. Despite the small numbers our data suggests mutations and over expression in genes with potential impact on the therapeutic response. The paper has been submitted for publication.

The department is also supporting the research on Acute Myeloid Leukaemias (AML) through the Tata Precision oncology project in AMLs. The department is also supporting research in solid tumors.

RESEARCH PROJECTS

1. TATA Precision Oncology Project in AML titled “Acute Myeloid Leukaemia: Exploring the Feasibility of Multimodal-Omics Based Genomic Characterisation, MRD Evaluation and Computational Drug Modelling to Inform Disease Management. Tata Trusts TEDT/MUM/CAN/TMC/2019-2020/0142/MK/sa. (PI, Dr Mayur Parihar/Dr Vivek Radhakrishnan)
2. Integrating comprehensive immune characterization to multi-modal genomics and microbiome strategy in acute myeloid leukemia to better inform disease management. PI, Dr Mayur Parihar/Dr Vivek Radhakrishnan)

RESEARCH PUBLICATIONS

1. **Vipparthi K, Patel AK, Ghosh S, Das S, Das C, Das K, Sarkar A, Thatikonda V, Pal B, Arora N, Parihar M.** Two novel cell culture models of buccal mucosal oral cancer from patients with no risk-habits of tobacco smoking or chewing. *Oral Oncology*. 2021 Feb 1;113:105131.
2. **Radhakrishnan VS, Lokireddy P, Parihar M, Prakash PS, Menon H.** Mantle cell lymphoma: A clinical review of the changing treatment paradigms with the advent of novel therapies, and an insight into Indian data. *Cancer Reports*. 2021 Nov 24:e1590
3. **Gupta T, Arun SR, Babu GA, Chakrabarty BK, Bhav S, Kumar J, Radhakrishnan V, Krishnan S, Ghara N, Arora N, Mishra DK.** A Systematic Cytogenetic Strategy to Identify Masked Hypodiploidy in Precursor B Acute Lymphoblastic Leukemia in Low Resource Settings. *Indian Journal of Hematology and Blood Transfusion*. 2021 Oct;37(4):576-85.
4. **Radhakrishnan VS, Modak K, Bhav S, Kumar J, Roychowdhury M, Ghosh M, Parihar M, Arora N, Mishra DK, Nair R, Chandy M.** Inotuzumab Ozogamicin Monotherapy as an Outpatient Salvage Treatment in Relapsed Refractory B-Cell Acute Lymphoblastic Leukemia: Compassionate Access. *Indian Journal of Medical and Paediatric Oncology*. 2021 Apr;42(02):199-203.
5. **Lali BS, Dey D, Bhav S, Parihar M, Lingegowda D, Das J, Chatterjee S.** The Rare Face of an Infrequent Lymphoma Diagnosed by an Exquisite Method: Case Report with Review of

Literature. *Indian Journal of Medical and Paediatric Oncology*. 2021 Oct;42(05):501-5.

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Dr. Guru Charan Sahu

MBBS, MS ENT, Junior Consultant

Dr Prateek Jain

MBBS, MS, DNB, Junior Consultant

RESEARCH PUBLICATIONS

1. **Vipparthi K, Hari K, Chakraborty P, Ghosh S, Patel AK, Ghosh A, Biswas NK, Sharan R, Arun P, Jolly MK, Singh S.** Spontaneous differentiation leads to emergence of hybrid cell states relate to poor prognosis in oral cancer. 2021.
<https://doi.org/10.1101/2021.08.24.457509>
2. **Verma H, Shah N, Jain P, Manikantan K, Sharan R, Arun P.** Factors predicting contralateral nodal spread in papillary carcinoma of thyroid. *Indian J Cancer*. 2021 Jan 27.
Doi: 10.4103/ijc.IJC_684_19
3. **Jain PV, Das A, Manikantan K, Sharan R, Mallick I, Chatterjee S, Arun P.** Radiation-induced hypothyroidism in patients of oral squamous cell carcinoma: A retrospective analysis of 195 patients. *Indian J Cancer*. 2021 Jan 27.
Doi: 10.4103/ijc.IJC_946_19
4. **Roy P, Mallick I, Arun I, Zameer L, Dey D, Singh A, Chatterjee S, Jain P, Manikantan K, Sharan R, Pattatheyil A.** Nodal yield and topography of nodal metastases from oral cavity squamous cell carcinoma - An audit of 1004 cases undergoing primary surgical resection. *Oral Oncol*. 2021 Feb; 113:105115.
Doi:10.1016/j.oraloncology.2020.105115
5. **Vipparthi K, Patel AK, Ghosh S, Das S, Das C, Das K, Sarkar A, Thatikonda V, Pal B, Remani ASKN, Arora N, Parihar M, Vijayakumar MV, Bhat MK, Boppana R, Bhattacharjee S, Biswas NK, Arun P, Sharan R, Singh S.** Two novel cell culture models of buccal mucosal oral cancer from patients with no risk-habits of tobacco

smoking or chewing. *Oral Oncol.* 2021

Feb; 113:105131.

Doi:10.1016/j.oraloncology.2020.105131

6. **Kewlani V, Jain PV, Biswas G, Sharan R, Manikantan K, Panchal K, Arun P.** Impact of COVID 19 on oral cancer stage at presentation in india -- Experience from a tertiary cancer center. *Eur J Surg Oncol.* 2021 Feb; 47(2): e54
7. **Vipparthi K, Kishore H Chakraborty P, Ghosh S, Patel A, Ghosh A, Biswas N, Sharan R, Arun P, Jolly M, Singh S.** Spontaneous emergence of non-convertible cell states with CD24-High phenotype results in phenotypic heterogeneity that associates with poor prognosis in oral cancer.

Doi:

<https://doi.org/10.1101/2021.08.24.457509>

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1. Dr. Pattatheyil Arun (0000-0002-7828-5777)
2. Dr Prateek Jain (0000-0002-9829-8583)

8. **Arun P, Arun I, Jain P, Manikantan K,**

Sharan R. Determinants of prognosis in patients with oral squamous cell carcinoma metastasizing to a single cervical lymph node. *Oral Oncol.* 2021 Dec; 123:105586.

Doi:10.1016/j.oraloncology.2021.105586

9. **Kathar MA, Jain P, Manikantan K, Arun P, Koh YW, Sharan R.** Feasibility, Safety, Nodal yields and Learning curves in Retroauricular Robot/Endoscope Assisted Neck Dissection in the Management of Head and Neck Cancer. *Indian J Surg Oncol.* 2021 Dec; 12(4):808-815.
Doi: 10.1007/s13193-021-01444-z

Dr. Soumyadip Chatterji

MBBS, MD (Trop. Med), D.M (Infectious Diseases), Junior Consultant

RESEARCH PROJECTS

1. ICMR-NCRC. (PI, Dr. Soumyadip Chatterjee)
2. Global PPS. (PI, Dr. Sanjay Bhattacharya)
3. Infection Prevention and Control (IPC) - Capacity Building- Orientation Training for COVID-19 Preparedness and IPC for Healthcare Facilities. (PI, Dr. Sanjay Bhattacharya)

RESEARCH PUBLICATIONS

1. **K Gunjan, Mukherjee A, Sharma RK.**
ICMR Clinical registry for covid 19 team. Clinical Profile of Hospitalised Covid 19 patients in first and second wave of the pandemic: Insights from an Indian registry based observational study. *Observational Study. Indian J Med Res.* 2021 May;153(5&6):619-628.
doi: 10.4103/ijmr.ijmr_1628_21
2. **Roy S, Ghosh J, Ganguly S, Mondal D, Dabkara D, Chatterji S, Biswas B.**
Outcome of COVID-19 in Solid Organ Malignancies: Experience From a Tertiary Cancer Center in Eastern India. *JCO Glob Oncol.* 2021 Aug; 7:1374-1379.
doi: 10.1200/GO.21.00139

EXTERNAL ACADEMIC MEETINGS

1. CIDSCON (Conference August 2021 - delegate and organiser)
2. ON-INTENSE ID (CME- Oncological infections and Critical Care – November 2021- Organiser)
3. ID WEEK (Conference October 2021 – delegate)

Dr. Deepak Dabkara

MBBS, MD (General Medicine), DM (Medical Oncology),
Consultant and HOD

Dr. Bivas Biswas

MBBS, MD (Pediatrics), DM (Medical Oncology),
Consultant

Dr. Sandip Ganguly

MBBS, MD (General Medicine), DM (Medical Oncology),
Consultant

Dr. Joydeep Ghosh

MBBS, MD (General Medicine), DM (Medical Oncology),
Consultant

Dr. Somnath Roy

MBBS MD (Radiotherapy), DM (Medical Oncology),
DNB (Medical Oncology),
Consultant

Dr Arnab Bhattacharyya

MBBS, MD (Radiotherapy), DM (Medical Oncology),
Consultant

RESEARCH PROJECTS

1. A phase III multicenter, randomized study of oral LDK378 versus standard chemotherapy in previously untreated adult patients with ALK rearranged (ALK-positive), stage IIIB or IV, non-squamous non-small cell lung cancer. (PI Dr. Deepak Dabkara).
2. A Multicenter Phase 4, Open-label, single-arm, Safety and Efficacy Study of Enzalutamide in Indian patients with Progressive Metastatic Castration-Resistant Prostate Cancer (PI Dr. Deepak Dabkara (till Dec'21) , Dr. Bivas Biswas (since Dec'21)
3. A phase III, multicenter, randomized, double blind, placebo controlled study evaluating the efficacy and safety of canakinumab versus placebo as adjuvant therapy in adult subjects with stages AJCC/UICC v. 8 II-IIIA and

- IIIB (T>5cm N2) completely resected (R0) non-small cell lung cancer (NSCLC) (CANOPY A). (PI Dr. Deepak Dabkara - till Dec'21) , Dr. Bivas Biswas - since Dec'21)
4. A prospective, multicenter, Phase-IV clinical trial to assess safety of TAGRISSO (Osimertinib) in Indian adult patients with metastatic epidermal growth factor receptor (EGFR) T790M mutation-positive non-small cell lung cancer (NSCLC) (PI Dr. Deepak Dabkara).
 5. A Phase 3, Randomized Study of Amivantamab and Lazertinib Combination Therapy Versus Osimertinib Versus Lazertinib as First-Line Treatment in Patients with EGFR-Mutated Locally Advanced or Metastatic Non-Small Cell Lung Cancer (MARIPOSA). (PI Dr. Deepak Dabkara - till Dec'21; Dr. Sandip Ganguly - since Dec'21).
 6. A Randomized, Open-label Phase 3 Study of Combination Amivantamab and Carboplatin-Pemetrexed Therapy, Compared with Carboplatin-Pemetrexed, in Patients with EGFR Exon 20ins Mutated Locally Advanced or Metastatic Non-Small Cell Lung Cancer (PAPILLON). (PI Dr. Deepak Dabkara - till Dec'21; Dr. Bivas Biswas - since Dec'21).
 7. An open label, Single arm, Multicenter, Safety study of Atezolizumab in Locally Advanced or Metastatic Urothelial or Non Urothelial Carcinoma of the Urinary Tract. (PI Dr. Bivas Biswas)
 8. A Phase III Double-Blind, Randomised, Placebo-Controlled Study Assessing the Efficacy and Safety of Capivasertib + Abiraterone Versus Placebo + Abiraterone as Treatment for Patients with De Novo Metastatic Hormone-Sensitive Prostate Cancer (mHSPC) Characterised by PTEN deficiency(CAPItello-281). (PI Dr. Deepak Dabkara - till Dec'21; Dr. Somnath Roy - since Dec'21).
 9. A Phase III, Double-blind, Placebo-controlled, Multi-center International Study of Neoadjuvant / Adjuvant Durvalumab for the Treatment of Patients with Resectable Stages II and III Non-Small Cell Lung Cancer (AEGEAN) (PI Dr. Bivas Biswas)
 10. A Phase III, Randomized, Open Label, Controlled, Multi-Center, Global Study of First-Line Durvalumab in Combination with Standard of Care Chemotherapy and Durvalumab in Combination with Tremelimumab and Standard of Care Chemotherapy Versus Standard of Care Chemotherapy Alone in Patients with Unresectable Locally Advanced or

Metastatic Urothelial Cancer(NILE) (PI Dr. Bivas Biswas)

11. A randomized, open label, multicenter phase II study evaluating the efficacy and safety of Capmatinib (INC280) plus Pembrolizumab versus Pembrolizumab alone as first line treatment for locally advanced or metastatic non-small cell lung cancer. (PI Dr. Bivas Biswas).

12. A Phase III, Randomised, Double-Blind, Placebo-Controlled, Multicentre Study Of Durvalumab As Consolidation Therapy In Patients With Locally Advanced, Unresectable, on -Small Cell Lung Cancer (Stage III) Who Have Not Progressed Following Definitive, Platinum- Based, Chemoradiation Therapy (Pacific 5). (PI Dr. Bivas Biswas).

13. A Phase II, Single Arm Study Assessing the Efficacy of Osimertinib in Combination with Savolitinib in Patients with EGFRm+ and MET+, Locally Advanced or Metastatic Non-Small Cell Lung Cancer Who Have Progressed Following Treatment with Osimertinib (The Savannah Study). (PI Dr. Bivas Biswas).

14. A Phase III, Open-label, Randomized Study of Osimertinib with or without Platinum Plus Pemetrexed Chemotherapy, as First-line Treatment in Patients with Epidermal

Growth Factor Receptor (EGFR) Mutation- Positive, Locally Advanced or Metastatic Non-Small Cell Lung Cancer (FLAURA2). (PI Dr. Bivas Biswas)

15. A Phase III, Randomized, Double Blind, Placebo-Controlled, Multicentre, International Study of Osimertinib as Maintenance Therapy in Patients with Locally Advanced, Unresectable Egfrmutation-Positive Non-Small Cell Lung Cancer (Stage III) Whose Disease Has Not Progressed Following Definitive Platinum -Based Chemoradiation Therapy (LAURA). (PI Dr. Bivas Biswas).

16. Single Arm Study to Evaluate the Safety of Dacomitinib for The First Line Treatment of Participants in India with Metastatic Non-Small Cell Lung Cancer with Epidermal Growth Factor Receptor "(EGFR) Activating Mutations. (PI Dr. Bivas Biswas).

17. Single-Arm Study to Evaluate the Safety of Lorlatinib in Alk Inhibitor-Treated Unresectable Advanced and/or Recurrent Alk-Positive Non-Small Cell Lung Cancer Participants in India. (PI Dr. Bivas Biswas).

18. A Phase III Randomized, Double Blind, Placebo-Controlled, Multi-Regional, International Study of Durvalumab in Combination with Gemcitabine plus Cisplatin versus Placebo in

Combination with Gemcitabine plus Cisplatin for Patients with First-Line Advanced Biliary Tract Cancers (TOPAZ-1). (PI Dr. Joydeep Ghosh).

19. A Randomized, Double-Blind, Placebo-Controlled, Phase III Study Evaluating the Efficacy and Safety of Pembrolizumab Plus Platinum-Based Chemotherapy with or without Canakinumab as First Line Therapy for Locally Advanced or Metastatic Non-Squamous and Squamous Non-Small Cell Lung Cancer Subjects (CANOPY-1). (PI Dr. Sandip Ganguly).

20. A Phase III, Randomized, Double-Blind, Placebo-Controlled, Multi-center Study of Durvalumab Monotherapy or in Combination with Bevacizumab as Adjuvant Therapy in Patients with Hepatocellular Carcinoma Who Are at High Risk of Recurrence After Curative Hepatic Resection or Ablation (EMERALD-2). (PI Dr. Sandip Ganguly).

21. A Phase II, Multicenter, Open-label Study to Evaluate the Efficacy and safety of Trastuzumab Deruxtecan (T-DXd, DS-8201a) for the Treatment of selected HER2-expressing Tumors (DEstiny-Pantumor02). (PI Dr. Bivas Biswas).

22. A prospective, multicenter, Phase-IV clinical trial to assess safety of Durvalumab in Indian Adult Patients

with locally advanced Unresectable non-small cell lung cancer (NSCLC) and urothelial cancer. (PI Dr. Bivas Biswas).

23. A Phase III, Randomised, Controlled, Multi-centre, 3-Arm Study of Neoadjuvant Osimertinib as Monotherapy or in Combination with Chemotherapy versus Standard of Care Chemotherapy Alone for the Treatment of Patients with Epidermal Growth Factor Receptor Mutation Positive, Resectable Non-small Cell Lung Cancer (NeoADAURA). (PI Dr. Bivas Biswas).

24. A Phase III Double-blind Randomized Study Assessing the Efficacy and Safety of Capivasertib + Paclitaxel Versus Placebo + Paclitaxel as First-line Treatment for Patients with Histologically Confirmed, Locally Advanced (Inoperable) or Metastatic Triple-Negative Breast Cancer (TNBC) (Capitello290). (PI Dr Joydeep Ghosh).

25. A prospective, Multicentre, Phase -IV Clinical Trial of Olaparib in the Indian Patients with Platinum Sensitive Relapsed Ovarian Cancer who are in Complete or Partial Response Following Platinum Based Chemotherapy and Metastatic Breast Cancer with Germline BRCA 1/2 Mutation (Soli Study). (PI Dr Joydeep Ghosh).

26. A single arm, multicentric, open label, efficacy and safety study of Doceaqualip (Docetaxel Lipid Suspension for Injection of Intas Pharmaceuticals Limited, India) based regimens in metastatic gastric adenocarcinoma patients. (PI Dr Joydeep Ghosh).
27. A multicenter, Double Blind, Randomized, Parallel-Group, Active-Controlled, Two Part, Phase III, Global Study to Evaluate the Pharmacokinetics, Efficacy and Safety of BP 02 (Trastuzumab) in comparison with Herceptin – EU in Patients with HER2 Positive Early Breast Cancer (EBC) and Metastatic Breast Cancer (MBC). (PI Dr Joydeep Ghosh).
28. A Randomised, Multicentre, Double-Blind, Phase III Study of AZD9833 (an ORAL SERD) plus Palbociclib versus Anastrozole plus Palbociclib for the Treatment of Patients with Estrogen Receptor-Positive, HER2-Negative Advanced Breast Cancer Who Have Not Received Any Systemic Treatment for Advanced Disease (SERENA-4). (PI Dr Joydeep Ghosh).
29. A Phase 3, Randomized, Multi-center, Open-label Study of Trastuzumab Deruxtecan (T DXd) Versus Investigator's Choice Chemotherapy in HER2 low, Hormone Receptor Positive Breast Cancer Patients whose Disease has Progressed on Endocrine Therapy in the Metastatic Setting (DESTINY Breast06). (PI Dr Joydeep Ghosh).
30. A Randomised, Double-blind, Placebo-controlled, Phase III Study of Olaparib Maintenance Monotherapy in Patients with BRCA Wild Type Advanced (FIGO Stage III-IV) High Grade Serous or Endometriod Ovarian Cancer Following Response to Standard First-line Platinum-based Chemotherapy (MONO-OLA). (PI Dr Joydeep Ghosh).
31. A descriptive study of PIK3CA mutations in patients with HR+/Her2-advanced breast cancer. (PI Dr Sandip Ganguly).
32. A Phase III, Randomized, Double-blind, Placebo-controlled, Multicenter Study of Transarterial Chemoembolization (TACE) in Combination with either Durvalumab Monotherapy or Durvalumab plus Bevacizumab Therapy in Patients with Locoregional Hepatocellular Carcinoma (EMERALD-1). (PI Dr Sandip Ganguly).
33. EPIK-B3: A Phase III, multicenter, randomized, double-blind, placebo-controlled study to assess the efficacy and safety of alpelisib (BYL719) in combination with nab-paclitaxel in patients with advanced triple negative

breast cancer with either phosphoinositide-3-kinase catalytic subunit alpha (PIK3CA) mutation or

phosphatase and tensin homolog protein (PTEN) loss without PIK3CA mutation. (PI Dr Sandip Ganguly).

RESEARCH PUBLICATIONS

1. **Biswas B, Ganguly S, Ghosh J.** Olaparib in Metastatic Castration-Resistant Prostate Cancer. *N Engl J Med.* 2021 Mar 25; 384(12):1174-1175.
Doi: 10.1056/NEJMc2100225.
2. **Patel A, Gupta VG, Biswas B, Ganguly S, Das CK, Batra A, Bhethanabhotla S.** Reply to D. O'Reilly et al. *JCO Glob Oncol.* 2021 Apr; 7:648.
Doi: 10.1200/GO.21.00077. PMID: 33956500; PMCID: PMC8162974.
3. **Patel A, Gupta VG, Biswas B, Das CK, Batra A, Ganguly S, Bhethanabhotla S.** Revisiting Fulvestrant Dosing in Uncertain Economic Times. *JCO Glob Oncol.* 2021 Jan; 7:1-3.
Doi: 10.1200/GO.20.00362.
4. **Kataria B, Sharma A, Biswas B, Bakhshi S, Pushpam D.** Pazopanib in rare histology of metastatic soft tissue sarcoma. *Ecancermedicalscience.* 2021 Sep 2; 15:1281.
Doi:10.3332/ecancer.2021.1281.
5. **Ghosh J, Chatterjee M, Ganguly S, Dabkara D, Biswas B.** Outcomes of metastatic neuroendocrine carcinoma of the gallbladder. *Ecancermedicalscience.* 2021 Jan 14; 15:1174.
Doi: 10.3332/ecancer.2021.1174.
6. **Ganguly S, Gargy S, Basu A, Chatterjee M, Ghosh A, Chakraborti B, Biswas B, Dabkara D, Rai S, Roy A, Mathai S, Bhaumik J, Ghosh J.** Multidisciplinary management of ovarian germ cell tumours-a single institutional study from India. *Ecancermedicalscience.* 2021 Sep 14; 15:1290.
Doi: 10.3332/ecancer.2021.1290. PMC8580601.
7. **Ganguly S, Ghosh J, Mishra D, Biswas G, Dabkara D, Roy S, Biswas B.** Early Experience with Dabrafenib-Trametinib Combination in Patients with BRAF-Mutated Malignant Melanoma-A Single-Center Experience. *South Asian J Cancer.* 2021 Nov 24; 10(3):187-189.
Doi: 10.1055/s-0041-1736032.
8. **Biswas B, Biswas G, Ganguly S, Ghosh J, Roy S, Roy MK, Pipara A, Karmakar J, Mukherjee N, Chakraborty S, Mishra DK, Midha D, Dabkara D.** Not so 'rare'-an example of malignant melanoma in India: report from a

- tertiary cancer centre.
Ecancermedicalscience. 2021 Dec 16;
15:1335.
Doi: 10.3332/ecancer.2021.1335.
9. **Biswas B, Dabkara D, Sengupta M, Ganguly S, Ghosh J, Arunsingh S M, Sen S.** Multimodality treatment outcome in patients with primary malignant mediastinal germ cell tumor in adults. *Cancer Rep (Hoboken)*. 2021 Feb; 4(1):e1306.
Doi: 10.1002/cnr2.1306. Epub 2020 Oct 8. PMID: 33029924; PMCID: PMC7941572.
 10. **Sharma A, Kataria B, Biswas B, Bakhshi S, Pushpam D.** Oral metronomic chemotherapy is a cost effective alternative to pazopanib in advanced soft tissue sarcoma. *J Oncol Pharm Pract*. 2021 Mar 9:10781552211000113.
Doi: 10.1177/10781552211000113.
 11. **Biswas B, Dabkara D, Ganguly S, Ghosh J, Gupta S, Sen S, Chatterjee M, Basu A, Mukherjee S.** Outcome of testicular non-seminomatous germ cell tumours: report from a tertiary cancer centre in eastern India. *Ecancermedicalscience*. 2021 Mar 11; 15:1204.
Doi: 10.3332/ecancer.2021.1204.
PMID: 33889213; PMCID: PMC8043674.
 12. **Roy S, Ghosh J, Ganguly S, Mondal D, Dabkara D, Chatterji S, Biswas B.** Outcome of COVID-19 in Solid Organ Malignancies: Experience From a Tertiary Cancer Center in Eastern India. *JCO Glob Oncol*. 2021 Aug; 7:1374-1379.
Doi: 10.1200/GO.21.00139.
 13. **Ghosh J, Chatterjee M, Ganguly S, Datta A, Biswas B, Mukherjee G, Agarwal S, Ahmed R, Chatterjee S, Dabkara D.** PDL1 expression and its correlation with outcomes in non-metastatic triple-negative breast cancer (TNBC). *Ecancermedicalscience*. 2021 Apr 6; 15:1217.
Doi: 10.3332/ecancer.2021.1217.
 14. **Erman M, Biswas B, Danchaivijitr P, Chen L, Wong YF, Hashem T, Lim CS, Karabulut B, Chung HJ, Chikatapu C, Ingles S, Slimane K, Kanesvaran R.** Correction to: Prospective observational study on Pazopanib in patients treated for advanced or metastatic renal cell carcinoma in countries in Asia Pacific, North Africa, and Middle East regions: PARACHUTE study. *BMC Cancer*. 2021 Nov 9; 21(1):1191.
Doi: 10.1186/s12885-021-08848-8.
 15. **Mallick A, Das J, Shaw MK, Biswas B, Ray S.** Prognostic Value of Metabolic Tumor Parameters in Pre-treatment

- 18F-Fluorodeoxyglucose Positron Emission Tomography-Computed Tomography Scan in Advanced Non-Small Cell Lung Cancer. *Indian J Nucl Med*. 2021 Apr-Jun; 36(2):107-113. Doi: 10.4103/ijnm.IJNM_170_20.
16. **Dabkara D, Ganguly S, Ghosh J, Mukherjee S, Gupta S, Mallick I, Mukherjee S, Midha D, Chatterjee M, Basu A, Hasan A, Biswas B.** Clinicopathological characteristics, prognostic factors and treatment outcomes of seminomatous germ cell tumours from a tertiary cancer centre in eastern India. *Natl Med J India*. 2021 Mar-Apr;34(2):68-72. doi: 10.4103/0970-258X.326752.
 17. **Kumar A, Biswas B, Chopra A, Kapil A, Vishnubhatla S, Bakhshi S.** Early Discontinuation versus Continuation of Antimicrobial Therapy in Low Risk Pediatric Cancer Patients with Febrile Neutropenia, Before Recovery of Counts: A Randomized Controlled Trial (DALFEN Study). *Indian J Pediatr*. 2021 Mar;88(3):240-245. doi: 10.1007/s12098-020-03377-x.
 18. **Erman M, Biswas B, Danhaivijitr P, Chen L, Wong YF, Hashem T, Lim CS, Karabulut B, Chung HJ, Chikatapu C, Ingles S, Slimane K, Kanesvaran R.** Prospective observational study on Pazopanib in patients treated for advanced or metastatic renal cell carcinoma in countries in Asia Pacific, North Africa, and Middle East regions: PARACHUTE study. *BMC Cancer*. 2021 Sep 14; 21(1):1021. Doi: 10.1186/s12885-021-08738-z.
 19. **Ghosh J, Arun I, Ganguly A, Ganguly S.** Cutaneous metastases in a patient with adenocarcinoma of the stomach. *Indian J Dermatol Venereol Leprol*. 2021 Sep-Oct; 87(5):699-701. Doi: 10.25259/IJDVL_657_20. PMID: 34114411.
 20. **Agrawal SK, Kewlani V, Priya N, Sharma A, Ghosh J, Chatterjee S, Ahmed R.** Effect of non-sentinel metastasis on adjuvant treatment decisions and survival in Z0011 eligible non-screened detected breast cancer population. *Ecancermedicalscience*. 2021 Nov 26; 15:1324. Doi: 10.3332/ecancer.2021.1324.
 21. **Dabkara D, Ganguly S, Ghosh J, Mukherjee S, Gupta S, Mallick I, Mukherjee S, Midha D, Chatterjee M, Basu A, Hasan A, Biswas B.** Clinicopathological characteristics, prognostic factors and treatment outcomes of seminomatous germ cell tumours from a tertiary cancer centre in eastern India. *Natl Med J India*. 2021 Mar-Apr; 34(2):68-72. Doi: 10.4103/0970-258X.326752.

22. **Das J, Ghosh J, Zameer L, Ray S.** 18F-Fluorodeoxyglucose Positron Emission Tomography/Computed Tomography Finding in a Rare Case of Follicular Carcinoma of Thyroid with Rhabdoid Morphology. *Indian J Nucl Med.* 2021 Jan-Mar; 36(1):56-58.
Doi: 10.4103/ijnm.IJNM_151_20.
23. **Roy S, Ghosh J, Ghosh R.** Cancer Vaccine in Solid Tumors: Where We Stand. *Indian Journal of Medical and Paediatric Oncology.* 2021; 42:319–324.
24. **Ghosh J, Dey S, Mandal D, Ganguly, S, Biswas B, Dabkara D, Ghosh A, Chakraborti B, Roy A, Rai S, Mathai S, Bhaumik J.** Clinicopathological features and outcomes of choriocarcinoma: A retrospective analysis from an Indian tertiary cancer center. *Cancer Research Statistics and Treatment.* 2021.
DOI: 10.4103/crst.crst_124_21
25. **Ghosh J, Phillip D, Ghosh J, Bajpai J, Gulia S, Parmar V, Nair N, Joshi S, Sarin R, Budrukkar A, Wadasadawala, Shet T, Patil A, Sawant S, Dhir A, Kembhavi S, Popat P, Hawaldar R, Kembhavi Y, Gupta S.** Survival outcomes with 12 weeks of adjuvant or neoadjuvant trastuzumab in breast cancer. *Indian journal of cancer.* 2021.
26. **Roy S, Khaddar S, Agrawal A, Rathnakumar G, Nayak L, Kapoor A.** Biclinal Multiple Myeloma- A Case Series. 2021.
DOI: <https://doi.org/10.21203/rs.3.rs-739216/v1>
27. **Biswas B, Ganguly S, Ghosh J, Roy S, Bakshi R, Dabkara D.** Real-world experience of dacomitinib in EGFR mutated advanced NSCLC: A single center experience from India. *Journal of Clinical Oncology.* 2021.

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2. Dr. Bivas Biswas (0000-0002-6101-5500)
3. Dr. Sandip Ganguly (0000-0001-8407-6763)
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6. Dr Arnab Bhattacharyya (0000-0003-1467-8835)

DEPARTMENT OF MICROBIOLOGY

Dr. Sanjay Bhattacharya

MD, DNB, DipRCPath, FRCPath, Senior Consultant

Dr. Gaurav Goel

MD, DNB, MNAMS, Fellowship in Clinical Microbiology, Senior Consultant

OVERVIEW OF RESEARCH

1. The Department of Microbiology at Tata Medical Center in Kolkata, India is involved in the following research activities:
2. Antimicrobial resistance surveillance with Indian Council of Medical Research
3. Antimicrobial Stewardship Program with the Indian Council of Medical Research
4. Healthcare associated infection surveillance with CDC-ICMR and AIIMS New Delhi
5. Capacity Building in IPC and AMSP in Secondary Care Hospitals in Districts with ICMR
6. Surveillance of candida blood stream infection (candidemia) in Intensive Care Units with PGIMER, Chandigarh
7. Evaluation of Lateral Flow Assays/ Devices for the detection of Aspergillus antigens in serum/ BAL with PGIMER, Chandigarh
8. Epidemiological study of SARS CoV-2 among patients and staff of Tata Medical Center, Kolkata
9. Screening for Human Papillomavirus for the prevention of cervical cancer
10. Study of gut Microbiome among patients undergoing chemotherapy and bone marrow transplantation
11. Application of Molecular methods in a Clinical Microbiology Laboratory

RESEARCH PROJECTS

1. Infection Prevention and Control (IPC)
- Capacity Building- Orientation Training for COVID-19 Preparedness
and IPC for Healthcare Facilities. (PI, Dr. Sanjay Bhattacharya).

2. Expansion of Antimicrobial Stewardship and Infection Control Program of ICMR in Secondary Care

Hospitals. (PI, Dr. Sanjay Bhattacharya).

RESEARCH PUBLICATIONS

1. **Bhattacharjee S, Bhattacharya S.** Determining the feasibility of constructing a real-time polymerase chain reaction instrument locally: The cost of intellectual property rights and research and development. *J Acad Clin Microbiol.* 2021;23:18-23.
2. **Javed R, Roychowdhury M, Bhawe S, Nag A3, Kumar J, Radhakrishnan V, Bhattacharya S, Mishra DK, Ghara N, Reghu RS, Nair R, Chandy M.** Impact of COVID-19 on peripheral stem cell collection and preservation at a hematopoietic cell transplant center in India: Experience 2020. *Blood Cell Therapy- the official journal of APBMT.* 2021; 4 (2): 84- 87.
3. **Sharma M, Gangakhedkar RR, Bhattacharya S, Walia K.** Understanding complexities in the uptake of indigenously developed rapid point-of-care diagnostics for containment of antimicrobial resistance in India. *BMJ Glob Health.* 2021 Sep;6(9):e006628.
doi: 10.1136/bmjgh-2021-006628.
4. **Das P, Mondal S, Pal S, Roy S, Vidyadharan A, Dadwal R, Bhattacharya S, Mishra DK, Chandy M.** COVID diagnostics by molecular methods: A systematic review of nucleic acid based testing systems. *Indian J Med Microbiol.* 2021 Jul;39(3):271-278.
5. **Vijay, S., Bansal, N., Rao, B. K., Veeraraghavan, B., Rodrigues, C., Wattal, C., Goyal, J. P., Tadepalli, K., Mathur, P., Venkateswaran, R., Venkatasubramanian, R., Khadanga, S., Bhattacharya, S., Mukherjee, S., Baveja, S., Sistla, S., Panda, S., & Walia, K.** Secondary Infections in Hospitalized COVID-19 Patients: Indian Experience. *Infect Drug Resist.* 2021 May 24;14:1893-1903.
<https://doi.org/10.2147/IDR.S299774>.
6. **Goswami J, Sarkar A, Mukherjee S, Ghosh PS, Pal AR, Barman SM, Banerjee SS, Nandi R, Bhattacharyya S.** COVID-19 pandemic and preparedness of anesthesia team in a stand-alone cancer centre in Eastern India. *J Anaesthesiol Clin Pharmacol.* 2021 Apr-Jun;37(2):284-289.
doi: 10.4103/joacp.JOACP_454_20.
7. **Basu D, Basu S, Radhakrishnan VS, Bhattacharya S, Chakraborty S, Sinha S, Chandy M.** Comparison of Quality

and Efficacy of Apheresis Platelets Stored in Platelet Additive Solution Vis a Vis Plasma. *Indian J Hematol Blood Transfus*. 2021 Oct;37(4):648-657.

8. **George, B & Bhattacharya, S.**
Infections in Hematopoietic Stem Cell

Transplantation (HSCT) Patients. 10.1007/978-3-319-64938-2_7-1. In the book: Chandy M et al. Contemporary Bone Marrow Transplantation. 2021.

EXTERNAL ACADEMIC MEETINGS

Online Meetings

1. SBI-CREP (Observational Study Discussion meeting with Tata Medical Centre, Kolkata - 2nd December 2021)
2. BMGF (Project virtual PI meeting - 8th Oct 2021)
3. Development of COVID-19 Testing Facility in IIT-Kgp New Hospital (3rd March, 2021)
4. Capacity Building and Strengthening of Hospital Infection Control to Detect and Prevent Antimicrobial Resistance in India (AIIMS, New Delhi IX Principal Investigators Meeting - 7th April 2021)
5. TMC CDC (Shepered propsoal discussion with Dr. Sumanth Gandra - 11th Feb 2021)
6. TMC NIBMG SyMeC meeting (7th Jan 2021)
7. Target Product Profile (TPP) for rapid diagnostics for Sepsis and Neonatal Sepsis (24th Nov 2020)

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1. **Dr. Sanjay Bhattacharya**
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ARTICLES

1. Debjani Mukherjee & Manidipa Ghosh – TMC, Kolkata. Evaluate the effectiveness of 'lead the leaders' program on preceptorship among nurse preceptors in Tata Medical Center, Kolkata. INDIAN JOURNAL OF ONCOLOGY NURSING – VOLUME NO: 33 (Chemotherapy) JULY – September 2021.

M.SC STUDENT THESIS TOPIC

1. Pratyusha Paul. A study to assess the psychological anxiety and depression for disfigurement and psychosocial adjustment among postoperative head and neck cancer patients attending OPD and radiation department in Tata Medical Center, Kolkata.
2. Ashapurna Singha. A co-relational study to assess the knowledge and practice regarding application of 'hour one bundle' in managing septicemia among the staff nurses in Tata Medical Center, Kolkata.
3. Pinki Paul. A study to assess the quality of life of haematological cancer patients Tata Medical Center, Kolkata.
4. Rebecca Zodinpuui. A study to assess the need and anxiety level of family members of patients admitted in intensive care unit of Tata Medical Center, Kolkata.
5. Shyamali Ghosh. A study to assess the problems and management strategies of tracheostomy patients in Tata Medical Center, Kolkata.
6. Beauty Shome. A study to assess the quality of life, stress and coping strategies among lung cancer patients attending opd in Tata Medical Center, Kolkata.
7. Rupa Panja. A study to assess the physical and psychological problems among breast cancer patients undergoing breast surgery in Tata Medical Center, Kolkata.

Dr Soumitra Shankar Datta

MBBS DPM MD (Psychiatry) MNAMS,
MRCPsych CCT in Child Psychiatry, Senior
Consultant

Dr Shrikant Atreya

MBBS MD PDF, Fellowship in Palliative
Medicine, PhD scholar, Associate Consultant

Dr Gaurav Kumar

MBBS MD PDF, Fellowship in Palliative
Medicine, Junior Consultant

Dr Arnab Mukherjee

MBBS DPM MD, Junior Consultant

OVERVIEW OF RESEARCH

- a. Research in psycho-oncology, psychiatry and mental health
- b. Communication in oncology specifically doctor-patient communications. Dr Datta was awarded the University College London Teaching Excellence Bursary and he further collaborated with researchers in UCL to develop a communication skills training programme for oncology clinicians in India. The work on role of families in cancer communications was published in international peer reviewed journals. Presently Dr Datta is leading another project on cancer communications in paediatric oncology.
- c. Decision making in oncology: The research on decision making in oncology has also been an area of investigation.
- d. Stigma in cancer and other diseases: One project focussed on stigma perceived in women with breast cancer and another project is currently quantifying stigma perceived by health care workers fighting the COVID-19 pandemic.
- e. Mental Health issues and delivery model at the time of pandemic has been researched. Multiple publications from the clinicians of the department was published by the

leading international publishers like eCancerMedicalScience, Springer, American Psychiatric Association.

Dr Srikant Y Atreya

- a. Dr Shrikant is the convenor of the Primary Palliative Care for the country. The Primary Palliative taskforce comprising of 15 National and International faculties are working towards empowering general practitioners/family physicians into providing primary palliative care in the community. We have prepared training modules which are incorporated into the DNB Family Medicine curriculum and the faculty is now empanelled with the DNB board as resource person.
- b. Dr Shrikant has been invited by the Government of West Bengal as a technical advisor to audit the palliative care program dissemination

- f. The department has taken the leadership in publishing Cochrane reviews on child psychiatry.

where he will be conducting an in depth interview with stakeholders to understand their perceptions on barriers and facilitators in implementing palliative care in the state.

- c. As a part of my PhD dissertation, Dr Shrikant is the PI for the study on “Exploring the educational and training needs of General Practitioners providing end-of-life care to adult patients in West Bengal.”
- d. Dr Shrikant is the centre PI for the study on “Patterns of End-of-life care in Children with cancer in India- A Multicentric retrospective study”

Dr Gaurav Kumar

- a. Dr Gaurav is the Project Lead and Site Principal Investigator for R 21 National Institutes of Health (NIH)- National Cancer Institute (NCI) USA grant for a project titled “Implementation of home-based palliative care in resource limited settings” . This is the 1st NIH Grant received by Tata Medical Center,

Kolkata. It has led to a strong collaboration with Medical University of South Carolina (MUSC) USA opening doors for more international research collaborations. As part of receiving this US grant, Dr Gaurav have got our institution registered with various federal regulatory agency (OHRP, FWA, SAM, NCAGE) at USA

enabling TMC to be ready to accept and process further US Clinical research projects. Patient recruitment is underway in a very competitive manner and we hope to complete stipulated enrolment before deadline. This collaboration is leading

to planning of further future grants which NIH is interested in funding.

- b. Apart from this, Dr Gaurav am constantly involved in various departmental research audit and writing of new upcoming research projects.

RESEARCH PROJECTS

1. Fear and Stigma of Healthcare workers in Oncology during COVID19 (FrStHealOnCO). (PI Dr Arnab Mukherjee).
2. Field testing the validity and feasibility of the NCG-SHS screening Tool for Serious Health-related Suffering, at tertiary cancer-care institutions across India. (PI Dr Nandini Vallath).
3. Implementation of Home based Palliative Care in resource-limited settings. (PI Dr Shrikant Y Atreya)
4. An exploratory study to understand the educational and training needs of general practitioners providing end of life care to adult patients in West Bengal. (PI Dr Gaurav Kumar).
5. Exploring the educational and training needs of General Practitioners providing end-of-life care to adult patients in West Bengal. (PI Dr Srikant Y Atyera).
6. Patterns of End-of-life care in Children with cancer in India- A Multicentric retrospective study. (PI Dr Srikant Y Atyera).
7. Role of relationship style on help seeking in women with ovarian cancer (RELATE study). (PI Dr Soumitra Datta; Prof Usha Menon).
8. Cancer Care in India - Accessibility, Affordability, Innovation: A qualitative exploration (CCI study). (PI Dr Soumitra Datta).
9. Preference for Information Sharing and Participation In treatment decision Making of Children and Adolescents with Cancer and their Parents (PRISM-HEALTH study). (PI Dr Soumitra Datta).
10. Patient and public perception of novel cancer treatments and participation in clinical trials: A mixed methods exploration (IMPART-PPI). (PI Dr Soumitra Datta; Prof Usha Menon; Prof Duncan Gilbert).

RESEARCH PUBLICATIONS

1. **Atreya S.** High-dose Continuous Infusion of Tranexamic Acid for Controlling Life-threatening Bleed in Advanced Cancer Patients. *Indian J Palliat Care*. 2021 Jan-Mar; 27(1):172-175.
Doi: 10.4103/IJPC.IJPC_48_20.
2. **Cartmell KB, Kenneson SA, Roy R, Bhattacharjee G, Panda N, Kumar G, et al.** Feasibility of a palliative care intervention utilizing community health workers to facilitate delivery of home-based palliative care in India. *Indian J Palliat Care*. 2021.
Doi: 10.25259/IJPC_62_21
3. **Qanungo S, Calvo-Schimmel A, McGue S, Singh P, Roy R, Bhattacharjee G, Panda N, Kumar G, Chowdhury R, Cartmell KB.** Barriers, Facilitators and Recommended Strategies for Implementing a Home-Based Palliative Care Intervention in Kolkata, India. *Am J Hosp Palliat Care*. 2021. Jun; 38(6):572-582.
Doi: 10.1177/1049909120969127.
4. **Atreya S, Kumar G, Samal J, et al.** Patients'/Caregivers' Perspectives on Telemedicine Service for Advanced Cancer Patients during the COVID-19 Pandemic: An Exploratory Survey. *Indian J Palliat Care*. 2020; 26(Suppl 1):S40-S44.
Doi:10.4103/IJPC.IJPC_145_20
5. **Datta S, Mukherjee A.** "My cancer is cured, but I do not feel normal": A commentary on neuropsychological outcomes of pediatric acute lymphocytic leukemia in India. *Cancer Res Stat Treat*. 2021; 4(1):119.
6. **Agrawal SK, Priya N, Agarwal P, Sharma A, Datta SS, Deo S V S, Ahmed R.** Trends in Axillary Management of Early Breast Cancer: a Questionnaire-Based Pattern of Practice Survey for India. *Indian J Surg Oncol*. 2021 Jun; 12(2):401-407.
Doi: 10.1007/s13193-021-01334-4
7. **Mukherjee A, Chatterjee M, Chattopadhyay S, Bhowmick C, Basu A, Bhattacharjee S, et al.** Psycho-oncology service provisions for hospitalised cancer patients before and during the COVID-19 pandemic in an oncology centre in eastern India. *Ecancermedicalscience*. 2021 May 10; 15:1226.
Doi: 10.3332/ecancer.2021.1226

EXTERNAL ACADEMIC MEETINGS

1. Webinar. Pain management in Lymphoma. September. (Key Speaker)
2. E-cancer Oncology summit. Managing End of Life. April. (Panel Chairperson)
3. Webinar. Cancer Pain Management. February. (Attendee)
4. Webinar. Interventional Cancer Pain. June. (Attendee).
5. Webinar. Fluid management in Cancer Patients. August. (Attendee).
6. Webinar. Nutrition in Cancer. October. (Panelist)

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2. Dr. Arnab Mukherjee
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Prof Dr Vaskar Saha

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Dr Shekhar Krishnan

MBBS, MRCP, FRCPATH, PhD, Senior Consultant

Dr Niharendu Ghara

MBBS, DCH, MD, FRCPATH, MRCPCH, Senior Consultant

Dr Parthasarathy Bhattacharyya

MBBS, DCH, MRCP, Senior Consultant

Dr Arpita Bhattacharyya

MBBS, DCH, MRCP, Senior Consultant

Dr Reghu K.S.

MBBS, DCH, MD, DM, Senior Consultant

Dr Debjani Ghosh

MBBS, MD, PDF, Junior Consultant

RESEARCH PROJECTS

1. Prospective Study for Neuroblastoma Registry and Biology. (PI, Dr Arpita Bhattacharyya).
2. A prospective collaborative Study for newly diagnosed patients with Retinoblastoma in India. (PI, Dr Arpita Bhattacharyya).
3. Randomised open label phase IV study for patients with newly diagnosed Acute Lymphoblastic Leukaemia. (PI, Prof. Dr. Vaskar Saha, Dr. Shekhar Krishnan).
4. Clinical Course, Pathological Spectrum and Outcomes in Paediatric Rare Tumours in India: A Prospective Observational Study. (PI, Dr. Reghu K.S.)
5. A multicentre study to standardise the management of relapsed acute lymphoblastic leukaemia in children and young people. (PI, Dr. Niharendu Ghara)
6. Cancer Immunotherapy and Precision Oncology Database. (PI, Dr. Reghu KS)
7. CD19 CAR T cellular therapy project. (PI, Dr. Reghu KS)

RESEARCH PUBLICATIONS

1. **Roy P, Das A, Singh A, Panda J, Bhattacharya A, Gehani A, Parihar M, K S Reghu, Achari R, Alaggio R, Field A, Hill DA, Dehner LP, Schultz KAP.** Phenotypic similarities within the morphologic spectrum of DICER1-associated sarcomas and pleuropulmonary blastoma: Histopathologic features guide diagnosis in the LMIC setting. *Pediatr Blood Cancer*. 2021 Dec 16:e29466. Doi: 10.1002/pbc.29466.
2. **Lamichhane R, Roy P, Hawkins C, Zameer L, Gehani A, Achari RB, Ho B, Huang A, Tabori U, Ramaswamy V, Sukumaran RK, Das A.** A novel central nervous system embryonal tumor successfully treated with multi-modal therapy highlights limitation of methylation-based tumor classification. *Pediatr Blood Cancer*. 2021 Dec 16:e29520. Doi: 10.1002/pbc.29520.
3. **Chaudhuri T, Nandakumar D, Datta SS, Husain Z, Reghu KS, Yadav IS, Krishnan S.** Information sharing experiences of professionals looking after children with cancer: A qualitative exploration from a specialist paediatric oncology unit in India. 2021. <https://doi.org/10.3332/ecancer.2022.1399>
4. **Javed R, Roychowdhury M, Bhawe S, Kumar J, Nag A, Radhakrishnan V, Gharee S, Niharendu G, Reghu KS, Bhattacharya S, Mishra DK, Krishnan S, Nair R, Chandy M.** Assessment of quality parameters in peripheral stem cell collection: A one-year audit. Abstract, HAEMATOCON 2021. <https://link.springer.com/article/10.1007/s12288-021-01510-0>
5. **Jain N, Sattar S, Ghara N, Inglott S et al.** Flow cytometry of bone marrow aspirates from neuroblastoma patients is a highly sensitive technique for quantification of low-level neuroblastoma. 2021. <https://doi.org/10.12688/f1000research.53133.2>
6. **Eckert C, Parker C, Moorman AV, Irving JA, Kirschner-Schwabe R, Groeneveld-Krentz S, Revesz T, Hoogerbrugge P, Hancock J, Sutton R, Henze G, Chen-Santel C, Attarbaschi A, Bourquin JP, Sramkova L, Zimmermann M, Krishnan S, von Stackelberg A, Saha V.** Risk factors and outcomes in children with high-risk B-cell precursor and T-cell relapsed acute lymphoblastic leukaemia: combined analysis of ALLR3 and ALL-REZ BFM 2002 clinical trials. *Eur J Cancer*. 2021;151:175-89.
7. **Locatelli F, Zugmaier G, Rizzari C, Morris JD, Gruhn B, Klingebiel T,**

- Parasole R, Linderkamp C, Flotho C, Petit A, Micalizzi C, Mergen N, Mohammad A, Kormany WN, Eckert C, Moricke A, Sartor M, Hrusak O, Peters C, Saha V, Vinti L, von Stackelberg A.** Effect of Blinatumomab vs Chemotherapy on Event-Free Survival Among Children With High-risk First-Relapse B-Cell Acute Lymphoblastic Leukemia: A Randomized Clinical Trial. *JAMA*. 2021;325(9):843-54.
8. **Sidhu J, Gogoi MP, Agarwal P, Mukherjee T, Saha D, Bose P, Roy P, Phadke Y, Sonawane B, Paul P, Saha V, Krishnan S.** Unsatisfactory quality of *E. coli* asparaginase biogenerics in India: Implications for clinical outcomes in acute lymphoblastic leukaemia. *Pediatr Blood Cancer*. 2021;68(11):e29046.
 9. **Rittberg R, Harlos C, Rothenmund H, Das A, Tabori U, Sinha N, Singh H, Chodirker B, Kim CA.** Immune Checkpoint Inhibition as Primary Adjuvant Therapy for an IDH1-Mutant Anaplastic Astrocytoma in a Patient with CMMRD: A Case Report-Usage of Immune Checkpoint Inhibition in CMMRD. *Curr Oncol*. 2021 Feb 1;28(1):757-766.
doi: 10.3390/curroncol28010074. Pu
 10. **Suwala AK, Stichel D, Schrimpf D, Maas SLN, Sill M, Dohmen H, Banan R, Reinhardt A, Sievers P, Hinz F, Blattner-Johnson M, Hartmann C, Schweizer L, Boldt HB, Kristensen BW, Schittenhelm J, Wood MD, Chotard G, Bjergvig R, Das A, Tabori U, Hasselblatt M, Korshunov A, Abdullaev Z, Quezado M, Aldape K, Harter PN, Snuderl M, Hench J, Frank S, Acker T, Brandner S, Winkler F, Wesseling P, Pfister SM, Reuss DE, Wick W, von Deimling A, Jones DTW, Sahm F.** Glioblastomas with primitive neuronal component harbor a distinct methylation and copy-number profile with inactivation of TP53, PTEN, and RB1. *Acta Neuropathol*. 2021 Jul;142(1):179-189.
doi: 10.1007/s00401-021-02302-6.
 11. **Alphones S, Chatterjee U, Singh A, Das A, Zameer L, Achari R, Bhattacharya A, Roy P.** Immunohistochemical screening for mismatch repair protein deficiency in paediatric high-grade gliomas - institutional experience and review of literature. *Childs Nerv Syst*. 2021 Aug;37(8):2521-2530.
doi: 10.1007/s00381-021-05229-1.
 12. **Durno C, Ercan AB, Bianchi V, Edwards M, Aronson M, Galati M, Atenafu EG, Abebe-Campino G, Al-Battashi A, Alharbi M, Azad VF, Baris HN, Basel D, Bedgood R, Bendel A, Ben-Shachar S, Blumenthal DT,**

Blundell M, Bornhorst M, Bronsema A, Cairney E, Rhode S, Caspi S, Chamdin A, Chiaravalli S, Constantini S, Crooks B, Das A, Dvir R, Farah R, Foulkes WD, Frenkel Z, Gallinger B, Gardner S, Gass D, Ghalibafian M, Gilpin C, Goldberg Y, Goudie C, Hamid SA, Hampel H, Hansford JR, Harlos C, Hijiya N, Hsu S, Kamihara J, Kebudi R, Knipstein J, Koschmann C, Kratz C, Larouche V, Lassaletta A, Lindhorst S, Ling SC, Link MP, Loret De Mola R, Luiten R, Lurye M, Maciaszek JL, Magimairajanlssai V, Maher OM, Massimino M, McGee RB, Mushtaq N, Mason G, Newmark M, Nicholas G, Nichols KE, Nicolaides T, Opocher E, Osborn M, Oshrine B, Pearlman R, Pettee D, Rapp J, Rashid M, Reddy A, Reichman L, Remke M, Robbins G, Roy S, Sabel M, Samuel D, Scheers I, Schneider KW, Sen S, Stearns D, Sumerauer D, Swallow C,

Taylor L, Thomas G, Toledano H, Tomboc P, Van Damme A, Winer I, Yalon M, Yen LY, Zapotocky M, Zelcer S, Ziegler DS, Zimmermann S, Hawkins C, Malkin D, Bouffet E, Villani A, Tabori U. Survival Benefit for Individuals With Constitutional Mismatch Repair Deficiency Undergoing Surveillance. *J Clin Oncol*. 2021 Sep 1;39(25):2779-2790. doi: 10.1200/JCO.20.02636.

13. Larkin T, Das A, Bianchi V, Sudhaman S, Chung J, Alsafwani N, Negm L, Yachnis A, Blatt J, Hawkins C, Bouffet E, Tabori U, Gururangan S. Upfront Adjuvant Immunotherapy of Replication Repair-Deficient Pediatric Glioblastoma With Chemoradiation-Sparing Approach. *JCO Precis Oncol*. 2021 Nov;5:1426-1431. doi: 10.1200/PO.21.00153.

EXTERNAL ACADEMIC MEETINGS

Dr. Niharendu Ghara

1. PHOCON 2021. INFANT LEUKEMIA. SEPTEMBER 2021.
2. PANEL DISCUSSION, Mumbai Hematology group. CML. July 2021
3. PANELIST chairperson HEMATACON 2021. Thrombotic Micro angiopathy November 2021.

Dr Arpita Bhattacharya

1. Bhutan Pediatric Virtual teaching sessions. Neutropenic Fever. March 2021.
2. Bengal Society of Pediatric Surgery Meeting Speaker. Neuroblastoma March 2021.
3. Bengal Society of Pediatric Surgery Meeting Speaker. Wilms tumor. Feb 2021.

Dr Reghu KS

1. Bhutan Pediatric Virtual teaching session Speaker. Bone tumors in Children. March 2021.
2. IAP Allepey Virtual Updates Speaker. Role of General paediatricians in Pediatric Oncology. January 2021.
3. Bengal Society of Pediatric Surgery Meeting Speaker. Advances in Germ Cell tumor in Children. July 2021.

Dr Debjani Ghosh

1. Bhutan Pediatric Virtual teaching sessions. Nutrition in Oncology. March 2021.
2. Oncological Emergencies. March 2021.

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Dr Gautam Biswas

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RESEARCH PUBLICATIONS

1. **Vishal K, Gautam B.** Impact of COVID 19 on oral cancer stage on presentation in India- experience from a tertiary care center. *Eur J Surg Oncol.* 2021 Feb; 47(2): e54.
2. **Bivas B, Gautam B.** Not so 'rare' an example of Malignant Melanoma in India report from a tertiary care center. *Ecancer Medical Science.* 2021;15:1335
3. **Ganguly S, Ghosh J, Mishra D, Biswas G.** Early experience with Dabrafenib-Trametinib Combination in patients with BRAF-Mutated Malignant Melanoma-A simple center experience. *South Asian Journal of Cancer.* 2021.

EXTERNAL ACADEMIC MEETINGS

Dr Gautam Biswas – Invited Faculty

1. Indian Society for Reconstructive Microsurgery. Moderator. Unusual Replants. January 2021.
2. TMC Oncology Skill Course. Local flaps in Head and Neck reconstruction. April 2021.
3. The second international congress "Multidisciplinary Aesthetic medicine science, practice – Joint session on Microsurgery – Russia. Panel Discussion. Microsurgery in Russia – an urgent need or the lot of the elite? June 2021.
4. The second international congress "Multidisciplinary Aesthetic medicine science, practice – Joint session on Microsurgery - Russia Dr Gautam Biswas Microsurgery training course: for whom and for what? June 2021.

5. The second international congress “Multidisciplinary Aesthetic medicine science, practice – Joint session on Microsurgery – Russia. Microsurgery in Breast reconstruction. June 2021.
6. Plastiquet Guest Lecture. Flap fabrication for Head and Neck Reconstruction. November 2021.
7. Asia Pacific Federation of Societies for Reconstructive Microsurgery- Japan. Perforator based flap in Head and Neck reconstruction. December 2021.
8. Asia Pacific Federation of Societies for Reconstructive Microsurgery- Japan. Reconstruction of central midface. December 2021.

Dr Karnav Bharat Panchal – Invited faculty

1. A-Z webinar on Flaps. Trunk and Chest recipient vessels. March 2021.
2. TMC Oncology skill course. Pedicled LD FIAP. April 2021.
3. Iancare oral cancer e- conclave. Panel – Intrigues of oral cancer. April

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Dr Sonia Mathai

MD(OBGYN), Fellowship (Gynaecological Oncology), Senior Consultant – Preventive Oncology

RESEARCH OVERVIEW

Prevention and Screening Innovation Project towards Elimination of Cervical Cancer (PRESCRIP-TEC) project was submitted under Horizon 2020 Global Alliance for Chronic Diseases (GACD) call of the European Commission, co-funded by the Department of Biotechnology. The project is aimed at conducting implementation research into cervical cancer screening and secondary prevention in different settings in four countries over three continents: Bangladesh and India in Asia, Uganda in Africa, and Slovakia in Eastern Europe. This will lead to effective and innovative cervical cancer screening, including direct treatment and follow-up for women in resource-poor or hard-to-reach settings in the world, by improving availability, accessibility, acceptability and quality of services.

The aim of this study is to analyse patient- and health services-related facilitators and barriers for uptake of cervical cancer screening in low- and middle-income countries and in vulnerable groups in Eastern Europe. By taking existing screening protocols

in the four countries, this study will introduce

1) interactive information with communities via mobile devices and social media; 2) client-friendly, community- based strategies, with self-test for high risk HPV infection; and 3) artificial intelligence in gynaecological examination. The use of artificial intelligence built into mobile devices offers a future for high quality diagnostics in resource-poor settings. By doing so, this will reduce the number of physical examinations and implement screenings by lower-level trained cadres.

The Indian Consortium comprising of Manipal Academy of Higher Education as the lead institution along with Tata Medical Center, Kolkata, Chittaranjan National Cancer Institute (CNCI), St. John's National Academy of Health Sciences (SJNAHS), Bengaluru, Sri Dharmasthala Manjunatheshwara College and Hospital of Ayurveda, Udupi (SDMCHAU), Tata Memorial Hospital (TMH) and Sikkim Manipal University are participating in this collaboration. TMC will be conducting this research project along with the help of the

Kolkata Municipal Corporation in Ward 56, 57

and 58 of Borough 7 in the city of Kolkata.

RESEARCH PROJECTS

1. Prevention and Screening Innovation Project towards Elimination of

Cervical Cancer. (PI: Dr. Sonia Mathai; CO- PI: Dr Jaydip Bhaumik)

RESEARCH PUBLICATIONS

1. **Ganguly S, Gargy S, Basu A, Chatterjee M, Ghosh A, Chakraborti B et al.** Multidisciplinary management of ovarian germ cell tumours—a single institutional study from India. *Ecancermedicalscience*. 2021; 15.
2. **Ghosh J, Dey S, Mandal D, Ganguly S, Biswas B et al.** Clinicopathological features and outcomes of

choriocarcinoma: A retrospective analysis from an Indian tertiary cancer center. *Cancer Research Statistics and Treatment Cancer Research Statistics and Treatment*. 2021; 4:486-91.

ACADEMIC MEETINGS

1. 17th World Congress for Cervical Pathology and Colposcopy. Organised by IFCPC India 2020 One Eliminating Cervical Cancer- Call for Action. July 2021. Oral Paper Presentation – Awarded 1st Prize.
2. 28th Annual Conference of Association of Gynaecologic Oncologists of India (AGOI). The Phenomenal Women. Nov 2021. Part of the Joint Organising Secretary and Faculty.
3. Prayash TMC-NICPR ECHO Online Training Course conducted from TMC Cancer screening training course for

Medical Officers- 2nd session (CST-MO 2). Jan 2021 - April 2021. TMC ECHO – Hub lead and faculty.

4. Prayash TMC-NICPR ECHO Online Training Course conducted from TMC Cancer screening training course for health professionals- 3rd session (CST-HP 3). June 2021 - Sept 2021. TMC ECHO – Hub lead and faculty.

HONOURS, AWARDS & FELLOWSHIPS

Dr Sonia Mathai

1. First Prize for Oral Paper Presentation: Cancer Prevention Training Course -1
Theme- Cervical Cancer Screening. year)
2. IARC-IFCPC certification on
Colposcopy (Colposcopy and Cervical

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Dr Sanjoy Chatterjee

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MD, DNB, Senior Consultant

Dr Indranil Mallick

MD, DNB, Senior Consultant

Dr Santam Chakraborty

M.D., Senior Consultant

Dr Tapesb Bhattacharyya

M.D., DNB, Junior Consultant

Dr Moses Arunsingh S

MD, FRCR (UK), PGCE (Dundee), Junior Consultant

RESEARCH PROJECTS

1. Intensifying Radiation Treatment in Advanced/ Poor Prognosis Laryngeal, Hypopharyngeal and Oropharyngeal Cancers Using Pet –CT Based Dose Escalation Strategies. Phase III Randomised Trial. (PI, Dr. Sanjoy Chatterjee).
2. Comprehensive Digital Archive of Cancer Imaging - Radiation Oncology. (PI - Dr. Jayanta Mukhopadhyay; Dr. Sanjoy Chatterjee; Dr. Indranil Mallick; Dr. Rimpa Achari; Dr. Santam Chakraborty). Image Bank Development.
3. Hypofractionated Radiation Therapy Comparing a Standard Radiotherapy Schedule (Over Three Weeks) With A Novel One Week Schedule in Adjuvant Breast Cancer: An Open-Label Randomised Controlled Study. Phase III Randomised Trial. (PI, Dr. Sanjoy Chatterjee).
4. Hypo-fractionated Radiotherapy Schedule of 26 Gy in 5 Fractions with Simultaneous Integrated Boost (6 Gy) In Advanced Incurable Breast Cancer: A Prospective Phase I/II Study. (PI, Dr. Sanjoy Chatterjee).
5. Prospective Evaluation of the Involved Side Versus Involved Node Target Volume Parameters for Deep Inspiration Breath Hold Mediastinal Radiation Therapy for Hodgkin's Lymphoma. Non-Drug Trial. (PI, Dr. Rimpa Achari).

6. A Phase III, Double-Blind, Placebo-controlled, Randomized Trial Assessing the Effects of Aspirin On Disease Recurrence and Survival After Primary Therapy in Common Non-Metastatic Solid Tumours. Phase III Randomised Trial. (PI, Dr. Indranil Mallick).
7. A Phase III, Open-label, Multicenter, Randomized Study to Investigate the Efficacy and Safety of Atezolizumab Compared with Chemotherapy in Patients with Treatment-naïve Advanced or Recurrent (Stage Iiib Not Amenable for Multimodality Treatment) Or Metastatic (Stage Iv) Non-small Cell Lung Cancer Who Are Deemed Unsuitable for Platinum-containing Therapy. Phase III Randomised Trial. (PI, Dr. Moses Arunsingh).
8. A Phase III, Multicenter, Randomised, Double-blind, Placebo-controlled Study of Atezolizumab (Anti-PD-L1 Antibody) In Combination with Paclitaxel Compared with Placebo with Paclitaxel for Patients with Previously Untreated Inoperable Locally Advanced or Metastatic Triple-Negative Breast Cancer. Phase III Randomised Trial. (PI, Dr. Sanjoy Chaterjee).
9. An Open-label, Multicenter, Phase IIib Study to Assess the Safety and Efficacy of Ribociclib (Lee011) In Combination with Letrozole for The Treatment of Men and Pre/Postmenopausal Women with Hormone Receptor-positive (Hr+) Her2-negative (Her2-) Advanced Breast Cancer (Abc) With No Prior Hormonal Therapy for Advanced Disease". Phase III Randomised Trial. (PI, Dr. Sanjoy Chatterjee).
10. Predicting Treatment Response of Lung Cancers Following Curative Chemo-radiation Using Serial Image Analysis. Radiomics Study. (Dr. Moses Arunsingh; Dr. Santam Chakraborty; Dr. Soumendranath Ray).
11. A Phase II, Multicenter, Open-label, Two-cohort, Non-comparative Study to Assess the Efficacy and Safety of Alpelisib Plus Fulvestrant or Letrozole in Patients with Pik3ca Mutant, Hormone Receptor (Hr) Positive, Her2 – Negative Advanced Breast Cancer (Abc), Who Have Progressed On or After Cdk 4/6 Inhibitor Treatment. Phase II Non Randomised Drug Trial. (PI, Dr. Sanjoy Chatterjee).
12. Ablative Therapy for Oligometastatic Cancers (Target) - A Prospective Data Registry. Prospective Observational Registry study. (PI, Dr. Moses Arunsingh S).
13. Phase II Study to Evaluate Toxicity and Clinical Outcomes of Definitive Helical

- Tomotherapy for Primarily Unresected Carcinoma Cervix Using Fluoro-deoxy Glucose Positron Emission Tomography Based Radiotherapy Planning. Phase II Department of Biotechnology (DBT) PET Study. (PI, Dr. Rimpa Achari).
14. A Phase III Randomised, Double-blind, Parallel Group, Multicentre Study to Compare the Efficacy, Safety, Pharmacokinetics and Immunogenicity Between SB3 (Proposed Trastuzumab Biosimilar) And Herceptin® In Women with Newly Diagnosed Her2 Positive Early or Locally Advanced Breast Cancer in Neoadjuvant Setting. Phase III Randomised Trial Drug Trial. (PI, Dr. Sanjoy Chatterjee).
 15. Randomised Controlled Trial of Prostate Radiotherapy in High Risk and Node-Positive Disease Comparing Moderate and Extreme Hypofractionation. Phase III Randomised Radiotherapy Trial. (PI, Dr. Indranil Mallick).
 16. Predictive Dashboards for Treatment Plan Evaluation and Prediction in Radiation Oncology. Technology Development. (PI, Dr. Indranil Mallick).
 17. Parotid Sparing Adaptive Radiotherapy in Head and Neck Cancer Patients –A Study Evaluating the Resource Intensiveness and Impact On Quality of Life Dr. Phase II single-arm Interventional study. (PI, Moses Arunsingh S).
 18. Radiomics as a tool for predicting outcomes in high-grade gliomas. Radiomics study. (PI, Dr. Rimpa Achari).
 19. Conversational User Interface for Patient Communication in Oncology. Technology Development. (PI, Dr. Indranil Mallick).
 20. A Long-term Follow-up Study for Cardiac Safety in the Patients with HER2 Positive Early or Locally Advanced Breast Cancer Who Have Completed the SB3-G31-BC. Observational Study. (PI, Dr. Sanjoy Chatterjee).
 21. A prospective, multicenter, randomized, double-blind, parallel-group study to compare the efficacy and safety of biosimilar cetuximab versus innovator cetuximab in combination with platinum-based chemotherapy in patients with recurrent locoregional or metastatic squamous cell carcinoma of the head and neck (SCCHN) Phase III Randomised Trial Drug Trial. (PI, Dr. Sanjoy Chatterjee).
 22. A Phase III, Double Blind, Placebo-Controlled, Randomized study of Ipatasertib in combination with

- Atezolizumab and Paclitaxel as a treatment for patients with Locally Advanced Unresectable or Metastatic Triple-Negative Breast Cancer. Phase III Randomised Trial Drug Trial. (PI, Dr. Sanjoy Chatterjee).
23. A prospective, multicenter, randomized, double blind, Phase III study to compare the efficacy and safety of Biosimilar ENZ137 of Enzene Biosciences Ltd. versus Innovator Bevacizumab both in Combination with CAPEOX in Patients with Metastatic Colorectal Cancer. Phase III Randomised Trial Drug Trial. (PI, Dr. Moses Arunsingh S).
 24. Identifying and potentially mitigating biologic and treatment-related disparities in head and neck squamous cell carcinoma (HNSCC) in India (with the University of Pittsburgh, for an NIH Supplementary Grant award). (PI, Dr. Indranil Mallick).
 25. Survey of use of Electronic Data Capture tools in randomized controlled trials in India (EDC). (PI, Dr. Santam Chakraborty).
 26. Reducing disparity in access to breast cancer radiotherapy in LMICs: A simulation study utilizing data from a cross sectional survey to understand the impact of the HYPOR Adjutant trial. (PI, Dr. Santam Chakraborty).
 27. Did COVID 19 affect the quality of care in carcinoma cervix patients treated with definitive radiotherapy? A cross-sectional study compared adherence to quality of care indicators during the pandemic against the pre-pandemic period. (RTQI). (PI, Dr. Santam Chakraborty).
 28. Individualized Constraints for Radiation Therapy Planning in Prostate Cancer (ICON-P). (PI, Dr. Indranil Mallick).
 29. Field testing the validity and feasibility of the NCG-SHS screening Tool for Serious Health-related Suffering, at tertiary cancer-care institutions across India. (PI, Dr. Indranil Mallick).
 30. Viable Residual Disease at Intracavitary brachytherapy after Chemo-radio Therapy in Carcinoma Cervix: Detection, Characterization and Prognostic Significance (VERDICT). (PI, Dr. Santam Chakraborty).
 31. Real-world results of definitive chemoradiation in carcinoma oesophagus: Can SCOPE1 results be replicated outside trial setting. (PI Dr. Tapesha Bhattacharya).
 32. Are the results of the CROSS protocol in operable oesophageal cancer reproducible in the real-world with a broader eligibility criteria? Experience from a tertiary care center in India. (PI Dr. Tapesha Bhattacharya).

33. Emerging role of Carbon Ion Radiotherapy in irradiation of recurrent head and neck cancers: What have we achieved so far? (PI Dr Tapesb Bhattacharya).
34. Dosimetric comparison of Carbon vs Proton vs VMAT using Ray station Platform in pancreatic cancer, head and neck cancer, lung cancer and rectal cancer. (PI Dr Tapesb Bhattacharya).

RESEARCH PUBLICATIONS

1. **Kundu S, Chakraborty S, Mukhopadhyay J, et al.** Research Goal-Driven Data Model and Harmonization for De-Identifying Patient Data in Radiomics. *J Digit Imaging.* 2021; 34(4):986-1004. doi:10.1007/s10278-021-00476-9
2. **Chakraborty S, Mallick I, Luu HN, Bhattacharyya T, Arunsingh M, Achari RB, Chatterjee S.** Geographic disparities in access to cancer clinical trials in India. *Ecancermedicalscience.* 2021 Jan 5; 15:1161. Doi: 10.3332/ecancer.2021.1161.
3. **Roy P, Mallick I, Arun I, Zameer L, Dey D, Singh A, Chatterjee S, Jain P, Manikantan K, Sharan R, Pattatheyl A.** Nodal yield and topography of nodal metastases from oral cavity squamous cell carcinoma - An audit of 1004 cases undergoing primary surgical resection. *Oral Oncol.* 2021 Feb; 113:105115. Doi:10.1016/j.oraloncology.2020.105115.
4. **Mallick I, Saha S, Arunsingh MA.** A Web-based Dose-volume Histogram Dashboard for Library-based Individualized Dose-constraints and Clinical Plan Evaluation. *J Med Syst.* 2021 Apr 26; 45(6):62. Doi:10.1007/s10916-021-01740-9.
5. **Jain PV, Das A, Manikantan K, Sharan R, Mallick I, Chatterjee S, Arun P.** Radiation-induced hypothyroidism in patients of oral squamous cell carcinoma: A retrospective analysis of 195 patients. *Indian J Cancer.* 2021 Jan 27. Doi: 10.4103/ijc.IJC_946_19.
6. **Chatterjee S, Backianathan S, Lal P, Gupta S, Chakraborty S.** Can the

- FAST-Forward Trial Results be Generalised Across all Breast Cancer Patients? *Clin Oncol (R Coll Radiol)*. 2021 Jan; 33(1):e95-e96.
Doi: 10.1016/j.clon.2020.09.006.
7. **Das J, Bhattacharyya T, Sinha S, Ray S.** Aberrant origin of right vertebral artery from the arch of aorta. *Indian J Thorac Cardiovasc Surg*. 2021 May; 37(3):357-359.
Doi: 10.1007/s12055-020-01100-1.
 8. **Mallick I, Saha S, Chatterjee S, Roy P.** A multi-parameter model for prediction of pathological nodal status in clinically early stage oral cancer using machine learning. *Journal of Clinical Oncology* 39(15_suppl):e18025-e18025. ASCO. 2021.
DOI:10.1200/JCO.2021.39.15_suppl.e18025
 9. **Miles D, Gligorov J, André F, et al.** Primary results from IMpassion131, a double-blind, placebo-controlled, randomised phase III trial of first-line paclitaxel with or without atezolizumab for unresectable locally advanced/metastatic triple-negative breast cancer. *Ann Oncol*. 2021; 32(8):994-1004.
Doi:10.1016/j.annonc.2021.05.801
 10. **Chatterjee S, Chakraborty S;** Controversies to Consensus Author Group. Consensus on contentious issues relevant for breast cancer management for the Indian scenario: Statements following a multicentre expert group meeting. *Indian J Med Res*. 2021; 154(2):180-188.
Doi:10.4103/ijmr.IJMR_2630_20
 11. **Gehani A, Sen S, Chatterjee S, Mukhopadhyay S.** Imaging Features of Post radiotherapy Changes in Head and Neck Cancers. *Indian J Radiol Imaging*. 2021;31(3):661-669.
Doi: 10.1055/s-0041-1735921
 12. **Agrawal SK, Kewlani V, Priya N, et al.** Effect of non-sentinel metastasis on adjuvant treatment decisions and survival in Z0011 eligible non-screened detected breast cancer population. *Ecancermedicalscience*. 2021;15:1324.
Doi:10.3332/ecancer.2021.1324
 13. **Ghosh J et al.** "PDL1 expression and its correlation with outcomes in non-metastatic triple-negative breast cancer(TNBC)." *Ecancermedicalscience* .2021.
Doi:10.3332/ecancer.2021.1217
 14. **Dabkara D, Ganguly S, Ghosh J, et al.** Clinicopathological characteristics, prognostic factors and treatment outcomes of seminomatous germ cell tumours from a tertiary cancer centre in eastern India. *Natl Med J India*. 2021;34(2):68-72.
Doi:10.4103/0970-258X.326752

15. **Safiya K et al.** "Oncology training and education initiatives in low and middle income countries: a scoping review." *Ecancermedicalscience*. 2021. Doi:10.3332/ecancer.2021.1296
16. **Bhattacharyya T, Arunsingh M, Chakraborty S, et al.** Can the CROSS protocol be safely implemented in real world scenario with broader eligibility criteria? Experience from a tertiary care centre in India. *Ecancermedicalscience*. 2021;15:1291. Doi:10.3332/ecancer.2021.1291
17. **Biswas B, Biswas G, Ganguly S, et al.** Not so 'rare'-an example of malignant melanoma in India: report from a tertiary cancer centre. *Ecancermedicalscience*. 2021;15:1335. Doi:10.3332/ecancer.2021.1335
18. **Chakraborty A, Chakraborty S, Sen S, Bhattacharya T, Khemka R.** Modification of the sacral erector spinae plane block using an ultrasound-guided sacral foramen injection: dermatomal distribution and radiocontrast study. *Anaesthesia*. 2021;76(11):1538-1539. doi:10.1111/anae.15549
19. **Jacob SV, Sidhique SK, Jacob A, Jeba J, Chakraborty S, Sasidharan BK.** Measures that matter in head-and-neck cancer: Review of health-related quality of life. 2021. *Current Medical Issues* 19(1):32
DOI:10.4103/cmi.cmi_130_20
20. **Janjua T, Sun F, Clarke K, Dickinson P, Franks K, Arunsingh M, Jain P.** Efficacy and toxicity hypofractionated radiotherapy for centrally located non-small cell lung cancer. *Journal of Radiotherapy in Practice*. 2021. doi:10.1017/S1460396921000376
21. **Mallick I, Chakraborty S, Baral S, et al.** Prioritizing Delivery of Cancer Treatment During a COVID-19 Lockdown: The Experience of a Clinical Oncology Service in India. *JCO Glob Oncol*. 2021;7:99-107. Doi:10.1200/GO.20.00433
22. **Maulik S, Mallick I, Arunsingh M, Prasath S, Arun B, Chatterjee S.** Parotid sparing adaptive radiotherapy in head and neck cancer patients: A study evaluating resource intensiveness and impact on quality of life. *Journal of Clinical Oncology*. 2021.
23. **Campone M, Laurentiis MD, Zamagni C, Kudryavcev I, Agterof M, Brown-Glaberman U, Pálácova M, Chatterjee S, Menon-Singh L, Wu J, Zhou K, Martín M.** Ribociclib+ letrozole in male patients with hormone receptor-positive (HR+), human epidermal growth factor receptor-2-negative (HER2-) advanced breast cancer (ABC): Subgroup analysis of the phase IIIb CompLEEment-1 trial. *Clinical Trial*

- Breast Cancer Res Treat.* 2022 May;193(1):95-103.
doi: 10.1007/s10549-022-06543-1
24. **Saha S, Santosham RJM, Arunsingh SM, Bhattacharyya T, Biswas B, Dabkara D.** Management of Advanced Non-small Cell Lung Cancer Patients Harboring ROS1 Rearrangement- Experience From a Tertiary Cancer Centre in Eastern India. Targeted Therapies of Lung Cancer Meeting. 2021. Poster ID: P07.02.
DOI:10.13140/RG.2.2.31511.91041
 25. **Saha S, Mallick I, Chatterjee S.** Adjuvant radiation therapy nodal target volumes in oral cancer: do consensus guidelines reflect patterns of failure? ASTRO 2021. *International Journal of Radiation Oncology, Biology, Physics* 111(3):e393-e394
DOI:10.1016/j.ijrobp.2021.07.1144
 26. **Mallick I, Saha S, Chatterjee S.** A dynamically updating individualized survival prediction modelling tool for oral cancer. *Radiotherapy and Oncology.* 2021. 161:S793
DOI:10.1016/S0167-8140(21)07403-X
 27. **Goyal L, Chakraborty S, Saha S, Roy P, Zameer L, Mishra DK, Parihar M, Chandra A, Arunsingh M, Chatterjee S, Mallick I, Bhattacharyya T, Biswas B, Basu Achari R.** Quality indicators for glioblastoma treatment: An audit from a tertiary care cancer center in India. ASCO 2021. *Journal of Clinical Oncology.* 39(15_suppl)
DOI:10.1200/JCO.2021.39.15_suppl.e18659.
Abstract id: e18659
 28. **Basu Achari R, Goyal L, Chakraborty S, Arunsingh M, B Arun, Das S, Bhattacharyya T, Mallick I, Chatterjee S, Chatterjee J, Dhara S, Ghosh N, Mukhopadhyay J.** Molecular profile and early MRI changes after chemoradiation in high grade diffuse astrocytoma. ESTRO 2021. Abstract number: E21-1201
 29. **Sasidharan R, Bhattacharyya T, Lal VH, Mallick I, ArunSingh M, Chakraborty S, Basu Achari R, Chatterjee S.** Real world results of CRT in Ca esophagus: Can SCOPE-1 results be replicated outside trial setting. ESTRO 2021. Abstract number:E21-0370
 30. **Achari R, Das A, Mahata A.** Total Body Irradiation in Stem Cell Transplant. Contemporary Bone Marrow Transplantation, Organ and Tissue Transplantation. ISBN 978-3-030-36358-1; 2021

ACADEMIC MEETINGS

TEACHING COURSE

1. FRCR Clinical Oncology Part 1 Course. January 2021. (Conducted in collaboration with Christie School of Oncology, Manchester, United Kingdom. Attended by 78 students (Online)
2. FRCR Clinical Oncology Part 2A Course. December 2021. (Conducted in collaboration with Leeds Cancer Centre, Leeds United Kingdom. Attended by 30 students (online).
3. 16th Varian Advanced Imaging School. October 2021. Attended by 8 delegates, online in collaboration with Varian.
4. 15th Varian Advanced Imaging School. July 2021. (This course is conducted online in collaboration with Varian Attended by 10 delegates).
5. 14th Varian Advanced Imaging School. February 2021. (This course is conducted online in collaboration with Varian Attended by 6 delegates).

ONLINE TEACHING COURSE

1. AVARO - Applied Virtual Anatomy for Radiation Oncology. Ongoing course - Started in 2018. An online teaching course of radiological anatomy for target volume delineation. Also includes the first of its kind web-based contour viewing and delineation platform. Number of students: 944.
2. IGRT Online. Ongoing Course - Started in 2014. Online teaching portal dealing with Image-Guided Radiotherapy practice and principles. Attended by several hundreds of radiation oncology professionals worldwide. Number of students: 3270.
3. Acute Oncology e-learning module for the Royal College of Radiology. Ongoing Course - Started in 2019. Online e-learning modules dealing with acute oncology topics. It is accessed by radiation oncology and clinical oncology professionals worldwide. Registered by 14 participants.

HONOURS, AWARDS & FELLOWSHIPS

1. WCI- Nag Foundation Award (Year in Review 2020). Competitive Award Grant for Research.
2. Lancet Commission Member Dr Sanjoy Chatterjee has been invited to

be a member of the Lancet Breast Cancer Commission.

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Dr Sabita Biswas

MBBS.MD (Pathology), Senior Consultant

Dr Suvro Sankha Datta

MBBS.MD (Immunohematology & Blood Transfusion), Junior Consultant

Dr. Debapriya Basu Kumar

M.D., Clinical Associate

OVERVIEW OF RESEARCH

1. Completed type and screen study in pre-transfusion testing – A multi-centre prospective observation study (TMC, Kolkata was the nodal centre).
2. Completed study on serology and sociology in HCWs and blood donors by estimating IgG titers to SARS-CoV-2 spike protein along with a KAP survey (knowledge, attitude, and practice) among blood donors.
3. Started a Project: Prospective Granulocyte usage and outcomes Survey (PROGRES), an

international collaborative project under the aegis of Biomedical Excellence for Safer Transfusion (BEST) network.

4. Initiation of a clinical audit on Platelet Transfusion Practices in Critically Ill Paediatric Oncology Patients at TMC, Kolkata.

RESEARCH PROJECTS

1. Prospective Granulocyte usage and outcomes Survey (PROGRES). (PI, Dr. Suvro Sankha Datta)
2. Platelet Transfusion Practices in Critically Ill Paediatric Oncology

Patients at TMC, Kolkata. (PI: Parthasarathi Bhattacharyya; Co-PI Suvro Sankha Datta).

RESEARCH PUBLICATIONS

1. Basu S., Basu D., Ghara N. (2021) **Blood Product Support in HSCT.** In: Chandy M, Radhakrishnan V.S., Sukumaran R.K. (eds) *Contemporary Bone Marrow Transplantation. Organ and Tissue Transplantation.* Springer, Cham.
<https://doi.org/10.1007/978-3-030-36358-18>
2. Datta SS, Basu S, Reddy M, Gupta K, Sinha S. Comparative evaluation of the conventional tube test and column agglutination technology for ABO antibody titration in healthy individuals: a report from India. *Immunohematology.* 2021;37(1):25-32.

EXTERNAL ACADEMIC MEETINGS

1. International Conference (16th Annual Congress and 3rd Joint AABB & AATM Congress, 2021)
Across the ABO group platelet transfusion practice in an Oncology centre in Eastern India. December 2021. (E-poster presentation by Dr. Debapriya Basu Kumar).
2. National Conference. 1st National Conference on Haemovigilance, 2021 - Are we missing reverse TRALI? December 2021. (Oral presentation by Dr. Debapriya Basu Kumar).
3. National Conference (9th Transmedcon, 2021) Anti E – In different clinical spectrum. December 2021. (E poster presentation by Dr. Debapriya Basu Kumar).
4. National Conference (9th Transmedcon, 2021). Severe ABO haemolytic disease of the newborn with high titer anti A. December 2021. (Oral presentation by Ms Mahua Reddy).
5. International Conference (16th Annual Congress and 3rd Joint AABB & AATM Congress, 2021 Utility of platelet cross match in NAIT. December 2021. (Talk delivered by Dr. Sabita Basu/Biswas).
6. National Conference (9th Transmedcon, 2021). Transfusion and transplantation. December 2021. (Chairperson for Panel discussion - Dr. Sabita Basu/Biswas).
7. National Conference (Transcon'2020) .Recent advances in Transfusion Medicine. February 27-28, 2021. (Chairperson for session on Recent advances in Transfusion Medicine - Dr. Sabita Basu/Biswas).

8. National Conference (9th Transmedcon, 2021). Pre-transplant reduction of isohemagglutinin titers by donor group plasma infusion in

major and bi-directional ABOi HSCT December 2021. (Speaker - Dr. Suvro S Datta).

HONOURS, AWARDS & FELLOWSHIPS

1. Dr. Suvro Sankha Datta. Harold Gunson Fellowship 2021 by the International Society of Blood Transfusion.

2. Dr Debapriya Basu Kumar. Best abstract for oral presentation, 1st National Conference on Haemovigilance, 2021.

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