EXECUTIVE SUMMARY

In India, cancer immunotherapy is in an “infantile stage” in 2020. The first evidence-based meeting on immuno-oncology was held in India on February 24, 2018. A special interest group was formed at this meeting, and they adopted the “Mumbai Resolution,” and established the Immuno-Oncology Society of India (I-OSI). This Society is dedicated to the academic pursuit and growth of this field in India.

The I-OSI was registered on November 2, 2018, and become the first legal entity in this regard in the country, with a view to promote and advance the scientific knowledge and research in immune-oncology. The Society serves as a platform to share, learn, and further advance understanding of immuno-oncology to help the ultimate beneficiary - the patients.

The executive members of I-OSI are eminent faculties who include:

President: Dr. Shubhada Chiplunkar (Former Director, Advanced Centre for Treatment Research & Education in Cancer [ACTREC], Tata Memorial Centre [TMC], Mumbai)

General Secretary: Dr. Jyoti Bajpai (Professor, Medical Oncology, TMC, Mumbai)

Vice President: Dr. Hemant Malhotra (Professor and Head of Department, Medical Oncology, Mahatma Gandhi Medical College Hospital, Jaipur)

Joint Secretary: Dr. Vivek Radhakrishnan (Senior Consultant, Haematology/Oncology, TMC, Kolkata)

Treasurer: Dr. Gaurav Narula (Professor, Medical Oncology, TMC, Mumbai)

Other executive members include Drs. SD Banavali (Professor, Medical Oncology, TMC, Mumbai), BK Smruti (Senior Medical Oncologist, Lilavati/Bombay Hospital), Vikram Matthews (Professor, CMC Vellore), Reena Nair (Senior Consultant, Tata Medical Centre TMC),...
Interest in the interplay of immunology and oncology is gaining momentum in the scientific community from across diverse fields with an increasing emphasis on cost-effective and innovative treatment options. In an effort to make it possible, the clinical and academic communities have been working together to develop novel strategies and therapies. The need for newer advances that can rapidly be taken through trials and brought to our patients at affordable costs is evident.

In this context, a comprehensive conference was organized to focus their knowledge, skills, and energies on this emerging field. The conference provided an international platform for discussion of present and future challenges in immuno-oncology. National and international faculty presented cutting edge and practical techniques based on evidence and ongoing research. The conference theme was “Immuno-Oncology towards 2021: Reboot, Resolve & Evolve.” The conference was held on a virtual platform over a period of 3 days from October 30-November 1, 2020.

There were discussions on all disciplines of oncology, immunology research, industry regulations, and expert opinions from subject matter experts. Experts discussed the role of immunotherapy in different cancer primaries, immunotherapy related toxicities and its management, cancer vaccines, various immunotherapy combinations, resistance mechanisms, evidence-based immunotherapy, Chimeric antigen receptor (CAR) T cell production, the optimal management with immunotherapy in rare situations, and finally, practical applications in an Indian context.

The esteemed international speakers included Nobel laureate, Dr James P. Allison from MD Anderson Cancer Center (MDACC), USA; Dr Jedd D. Wolchok, Memorial Sloan Kettering Cancer Center, USA; Dr Rakesh Jain, Harvard Medical School, USA; Dr Solange Peters, National Cancer Institute, USA; and Dr. Boro Dropulic, Lentigen Technology, Inc., USA.

Over 3 days, there were 17 sessions and three panel discussions covering a range of topics, with each session having an eminent speaker, a lead discussant, and chairpersons, and each panel discussion had a moderator and expert panellists. Highlights from the sessions and panel discussion are included below.

Dr Laura Locati spoke on “Immunotherapy in head and neck” session chaired by Drs Anil D’Cruz and Sadshivad Gundeti, with Dr Vanita Noronha as lead discussant. She presented several immunotherapy options in platinum refractory head and neck cancers including the major trial results in recurrent metastatic head and neck cancers and strategies to overcome immunosuppressive tumor microenvironment.

Dr Sherene Loi spoke on “Immunotherapy in breast cancers” session chaired by Drs Rajiv Sarin and Vinay Deshmanc, with Dr Sudeep Gupta as the lead discussant. She highlighted the recent immunotherapy approval in breast cancers, its efficacy and side effects as well as the role of immunotherapy in germline BRCA-positive breast cancers with positive PD1 status.

Dr Aung Naing delivered a lecture on the management of “Immune-related adverse events (irAEs)” which was chaired by Drs Asha Kapadia and Jaya Ghosh, with Dr Sewanti Limaye as the lead discussant. He presented the major guidelines for management of irAEs from NCCN, ESMO, and ASCO, including the ideal dosage of steroids and management of major toxicities (i.e., colitis, pneumonitis, hepatitis, skin rash, hypophysitis and thyroiditis).

Dr John B. Haanen delivered a lecture titled “Mitigating checkpoint inhibitors toxicities,” which was chaired by Drs D C Doval and Vinod Raina, with Dr Atul Sharma as the lead discussant. He explained the incidence and prevalence of various irAEs along with the temporal profile and the kinetics and the correlation between irAEs and the efficacy of immune checkpoint inhibitors (ICIs) along with management of the various toxicities.

Dr Olivia J Finn spoke on “Vaccines for the prevention of human non-viral cancers,” which was chaired by Drs Shubhada Chipulkar and Girdhari Lal, and the lead discussant was Dr Shyam Aggarwal. The highlights of the talk were the role of MUC1 vaccine in colorectal and lung cancer prevention and the role of vaccines targeting cyclin B1 in the prevention of gastrointestinal and lung cancers, and other various emerging vaccines.

Dr Jedd Wolchok gave an oration titled “Checkpoint blockade therapy: Focusing on combinations to improve outcomes,” which was chaired by Drs Avanish Saklani, Vineet Talwar, and S. D. Banavali with lead discussant being Dr Shyam Aggarwal. He touched on the mechanism of combination ICI therapy using anti PD1 and anti CTLA4 agents, efficacy of the dual checkpoint inhibitor combination, and biomarkers to guide combination therapy as well as the mechanisms of resistance.
The first day ended with an interactive panel discussion on “Checkpoint inhibitors in solid tumours with focus on the practical applications of guidelines in Indian context.” The session was moderated by Dr Senthil Rajappa, and the panelists comprised prominent Indian medical oncologists, Drs B K Smruti, Amit Rauthan, T P Sahoo, Ullas Batra, Amit Joshi, Shona Nag, Bhawna Sirohi, and Amit Agarwal. The panelists highlighted poor access of Indian patients to immunotherapy, commonly used biomarkers for selection of immunotherapy candidates, various common cancers where the ICIs are being used, and common toxicities and the usual responses.

Dr Solange Peters lectured on the session of “Breakthroughs in lung cancer immunotherapy,” which was chaired by Drs C S Pramesh and J P Agarwal with Dr Navneet Singh as the lead discussant. He covered the major phase 3 trials in lung cancer, emerging role of Cemiplimab in lung cancers related to smoking, and predictable biomarkers in lung cancer along with new and emerging targets for immunotherapy.

Prof. Silvia Stacchiotti lectured on the role of “Immunotherapy in sarcoma,” chaired by Drs Siddharth Laskar and Bharat Rekhi with Dr Chirag Desai as the lead discussant. She focused on immune sensitive subtypes of sarcoma and highlighted the importance of a histology-driven approach for selection of ICIs for sarcoma over a biomarker-driven approach.

Dr Ravindran Kanesvaran covered the role of “Immunotherapy in rare and challenging situations,” chaired by Drs Raghunadarao D and Jyoti Wadhw, with Dr G S Bhattacharya as the lead discussant. He highlighted the efficacy of ICIs in the elderly population, including the need for a comprehensive geriatric assessment and indications and contraindications in autoimmune diseases.

Dr Padmanee Sharma’s session on “Mechanisms of response and resistance to immunotherapy” was chaired by Drs Moni Abraham and Navin Khattry, with Dr Nitesh Rohatagi as the lead discussant. She covered the mechanisms of efficacy for anti-PD1 and CTLA4 inhibitor agents, role of immune co-stimulators like CD28, and strategies to cover a “cold” tumor to a “hot” tumor as well as the role of IL6, TGF-beta, and epigenetic pathways in the resistance mechanism of immunotherapy.

Dr Rakesh K Jain presented the “Tumor microenvironment” in a session chaired by Drs Amit Awasthi and Dipankar Nandi, with Dr S D Banavali as the lead discussant. He explained the role of hypoxia contributing to an immunosuppressive tumor microenvironment, the role of angiotensin receptor blockers for modulating the tumor microenvironment, and enhancing PDL1-based immunotherapy, as well as the role of anti-VEGF agents in immune modulation.

Dr James P. Allison delivered a fabulous oration lecture on the topic, “Immune checkpoint blockade in cancer therapy: New insights into therapeutic mechanisms.” Drs Sudeep Gupta, Govind Babu, and Jyoti Bajpai chaired the session, and Dr Kumar Prabhash served as the immunosuppressive lead discussant. Dr. Allison discussed the roadmap to the evolution of various immunotherapy agents, differences between anti CTLA4 and anti PD1 agents, and cellular targets of checkpoint blockade, and the role of various combination immunotherapy.

The second day ended with an interactive panel discussion moderated by Dr Jyoti Bajpai on the “Optimal management of rare diseases and situations in clinics.” The panelists consisted of eminent oncologists, Drs Silvia Stacchiotti, Solange Peters, Ravindran Kanesvaran, Aung Naing, Rakesh Jalali, Bharath Rangarajan, and Amish Vora. They discussed the efficacy, dosing, and timing of ICIs for patients on steroids, ICI uses in immunosuppressed patients like HIV-positive cases, and the role in rare malignancies like Merckel cell carcinoma.

Dr Boro Dropulic lectured on “CAR-T cell manufacture” in a session chaired by Drs Maheboob Basade and Vikram Mathews, with Dr Chetan Dhamne as the lead discussant. He highlighted the steps in the manufacture of CAR-T cells, selection of anti-viral vectors for CAR-T cells, and the newer generations of CAR-T cell therapy.

Dr Naval G Daver lectured on the role of “Immunotherapy in haematological malignancies” in a session chaired by Drs Anita Ramesh and Neetu Jain, with Dr Hemant Malhotra as the lead discussant. He highlighted on role of various antibodies (ADCs and BiTEs) in ALL and AML, role of Venetoclax in immune modulation, and newer targets of immunotherapy in haematological malignancies.

Dr Nirali Shah gave a lecture on “CAR-T cells: Beyond CD19” in a session chaired by Drs Purna Kurkure and Pankaj Malhotra, with Dr Gaurav Narula as the lead discussant. She presented the targets of CAR-T cells beyond CD19, including anti-CD22 CAR-T cell therapies, as well as efficacy and toxicities including the clinical presentation and management of cytokine storm syndrome.

In the same session, Dr Aditi Shastri focused her lecture on the role of CAR-T cell therapy in rare and challenging situations like extremes of age and patients with comorbidities like poor PS, low ejection fraction, and pulmonary embolism.

Dr Rahul Purwar covered the challenges, lack of technical expertise, and cost of developing CAR-T cell therapy in an Indian setting in a session chaired by Drs Purvish Parikh and Sunil Arora, with Dr Vivek Radhakrishnan as the lead discussant.

Dr David Gottlieb delivered a lecture on the applications of adoptive immunotherapy in a session chaired by Drs Tapan Saikia and Lalit Kumar, with Dr Prashant Mehta as the lead discussant. He highlighted the various viral antigens that can be potential candidates for adoptive immunotherapy and the role of multipathogen T cell products and immune reconstitution following CAR-T cell therapy.
Dr Manju Sengar moderated an exceptional panel discussion on role of “Immunotherapy in haematolymphoid malignancies.” The panellists were Drs Ashish Bakshi, Rahul Purwar, Hari Menon, Hasmukh Jain, Sameer Bakshi, Vipul Sheth, and Abhay Bhave. There was a case-based discussion about the role of ICIs in relapsed Hodgkin’s lymphoma, primary mediastinal B cell lymphoma, ALL, and multiple myeloma.

The final talk was by Dr George Abraham presenting on the safety and efficacy data of immunotherapy from a multicentric data in Indian setting.

Dr Jyoti Bajpai, organizing secretary, concluded the second I-OSICON and expressed the tremendous gratitude towards all who contributed to the success of the congress including the entire organizing committee, distinguished guest speakers, and I-OSI members and delegates. The main take home messages were “give life a chance via cancer immunotherapy” and “increase global collaborations” to participate in more trials and improve access to the life-saving drugs and improve outcomes for the patients.

Acknowledgment

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