Whitepaper:

EXPERT INSIGHTS: ONCOLOGY CLINICAL DEVELOPMENT IN ASIA PACIFIC

Featuring Oncology Experts, Dr. Kiyoshi Hashigami and Dr. Morihiro Watanabe

In the dynamic landscape of biotech innovation and pharmaceutical advancement, the Asia Pacific region has emerged as a powerhouse in oncology clinical development, taking control of drug development pipelines. Over the past decade, the region has experienced unparalleled growth in oncology clinical trial activity, marketing an astounding 138% increase from 2010 to 2020.[1] Spearheaded by countries such as China and Japan, Asia Pacific now leads the world in the number of ongoing oncology trials, reflecting its pivotal role in shaping the global biotech landscape.

In this whitepaper, we examine the key insights of two distinguished cancer researchers, Dr. Kiyoshi Hashigami and Dr. Morihiro Watanabe, who provide a caliber of experience and expertise to the forefront of oncology clinical development. Through their perspectives, we explore the driving forces behind the unprecedented growth in oncology trials in Asia Pacific, the unique challenges and opportunities presented by the region's diverse landscape, and the transformative impact of emerging trends such as precision medicine, immunotherapy, and novel therapeutic modalities.

OUR APAC-BASED ONCOLOGY EXPERTS

Kiyoshi Hashigami, MD
Senior Medical Director, Hematology & Oncology

Kiyoshi Hashigami, MD is a US-trained physician with expertise in the development of new therapeutics for a wide range of solid and hematologic malignancies. He brings over 15 years of clinical research experience in numerous drug classes including immuno-biologics and precision targeted agents.

Prior to joining Medpace, Dr. Hashigami held leadership positions in organizations including AstraZeneca Japan, Bristol-Myers Squibb, Pfizer, Jiangsu Hengrui Medicine Co., and Susmed.

Morihiro Watanabe, MD, PhD
Medical Director, Hematology & Oncology

Morihiro Watanabe, MD, PhD is an Oncologist with over 25 years of experience in clinical research and clinical oncology practice, specializing in Oncology and Immuno-oncology.

Dr. Watanabe has held leadership roles in organizations, including Eli Lilly Japan, Merk Biopharma Japan, Insmed GK and Novocure. He is an active member of ASCO and JUA, and he has authored several key publications in oncology.

FACTORS DRIVING GROWTH IN ONCOLOGY CLINICAL DEVELOPMENT

The notable growth in oncology clinical development across the Asia Pacific region can be attributed to several pivotal factors. Dr. Hashigami emphasizes the demographic trends, stating, "Japan and East Asia lead the world in rapidly aging populations. As age is a primary risk factor for more cancers, Asia is seeing a steady uptrend in cancer incidence." This demographic shift underscores the increasing prevalence of cancer cases, with projections indicating a continued rise in diagnoses. In Japan alone, it is estimated that one out of every two individuals will be diagnosed with cancer in their lifetimes, highlighting the urgency for robust clinical development efforts.[2]

Dr. Watanabe calls attention to the significance of unmet medical needs and promising pipelines as key drivers of growth. He notes, "Cancers such as gastric, esophagus, liver, and biliary tract are prevalent in the Asia Pacific region." These cancers present significant challenges to healthcare systems and emphasize the urgent need for innovative treatment approaches.

"The incidence of other cancers, such as lung cancer, is high in Asia Pacific," shared Dr. Watanabe. "Asia Pacific has, and will continue to be, a major contributor to global clinical trials in terms of patient enrollment for many types of cancer."

The notable growth in the Asia Pacific region is driven by a combination of demographic trends, unmet medical needs, and promising pipelines. As the region continues to play a major role in clinical trials, addressing these challenges and leveraging emerging opportunities will be crucial in advancing cancer care.

NAVIGATING THE LANDSCAPE OF ONCOLOGY CLINICAL DEVELOPMENT IN ASIA PACIFIC

The landscape of oncology clinical development in Asia Pacific diverges from other regions—presenting unique challenges and opportunities for biopharmaceutical companies. Dr. Hashigami sheds light on the diversity of regulatory frameworks, population demographics, and clinical trial costs in the region. He states, "Japan, for example, is a developed major drug market that is attractive for most, if not all, new drug development." However, he highlights a significant challenge, noting, "Japan clinical trial costs are notoriously high, sometimes 4-5x the per-patient costs compared to neighboring countries such as South Korea or Taiwan." To address this, Dr. Hashigami shares an approach, proposing, "A three-country trial with Korean, Taiwanese, and Japanese patients can optimize cost-efficient trial enrollment, but then care must be taken in the up-front regulatory dialogue on critical aspects of the development plan." This highlights the importance of navigating regulatory nuances and optimizing trial designs to ensure efficacy and effectiveness.

Dr. Watanabe reemphasizes the complexity arising from the diversity between countries in the Asia Pacific region. He states, "In Asia Pacific, the diversity between countries in terms of medical practices, regulatory requirements, disease burden, et cetera, is the most challenging part of clinical trials."

The landscape in Asia Pacific diverges from other global regions due to the diverse regulatory frameworks, population demographics, and clinical trial costs. Diversity influences trial design and execution, underscoring the importance of investing in an adaptable partner with proven experience in oncology clinical development, including regulatory expertise in Asia Pacific.

ADDRESSING REGULATORY NUANCES AND CHALLENGES IN CONDUCTING ASIA PACIFIC ONCOLOGY CLINICAL TRIALS

The regulatory landscape poses significant challenges for conducting oncology clinical trials in the Asia Pacific region, as our experts highlight.

Dr. Hashigami emphasizes the critical consideration of heterogeneity in clinical practice and regulatory frameworks. He shares several key considerations when navigating the complex trial landscape, "Early and proactive engagement of local regulatory bodies, as well as local clinical expertise, are critical. Adaptability in trial planning is also important, to allow for protocol changes based on regulatory or expert feedback." Dr. Watanabe underscores the variability in regulatory requirements across Asia Pacific regions, stating, "The requirements for the regulatory dossier and the review time for IND vary between the regulatory authorities in each Asia Pacific country." To optimize study timelines, Dr. Watanabe recommends confirming these points as soon as the country selection has been decided upon. This proactive approach can streamline regulatory processes and mitigate delays, ultimately enhancing the efficacy of oncology clinical trials.

Ultimately, navigating regulatory challenges in oncology clinical trials across Asia Pacific requires proactive engagement, local expertise, and adaptability in trial planning. By addressing regulatory nuances early in the trial planning process, combined with close collaboration with regulatory agencies and a strategic CRO partner with local expertise in Asia Pacific, biopharmaceutical companies can optimize study timelines and ensure successful trial execution in this dynamic region.

ASIA PACIFIC PATIENT DEMOGRAPHICS AND DISEASE PREVALENCE: SHAPING ONCOLOGY CLINICAL TRIAL STRATEGIES

Patient demographics, disease prevalence, and treatment preferences are shaping the landscape of oncology clinical trials. Dr. Hashigami emphasizes the rapid establishment of tumor molecular profiling as a standard of care in East Asia. He notes, "Such profiling via NGS (next-generation sequencing) is now routine for many malignancies and is covered by national health insurance in Japan." This advancement has led to remarkable improvements in patient outcomes, particularly for tumors with available targeted therapy. Dr. Hashigami also shares that the emergence of new regulatory frameworks allowing for conditional early approval based on high treatment efficacy in focused tumor populations. While these pathways accelerate the bench-to-bedside timeline for cancer drug development, Dr. Hashigami stresses the importance of planning for significant post-marketing regulatory mandates, such as all-case pharmacovigilance surveillance and disease registries.

Dr. Watanabe draws attention to specific genetic mutations prevalent in Asian populations, such as the EFGR gene mutation in Asian women with lung cancer who are passive smokers. "Research scientists and investigators in the Asia Pacific region have made a significant contribution to this discovery," Dr. Watanabe shares. He stresses the criticality of early involvement with in-region investigators for the successful advancement of oncology clinical developments, emphasizing the significance of regional expertise and collaboration in designing and executing trials tailored to the distinct characteristics of Asia patient populations.

EVOLVING TRENDS IN ONCOLOGY RESEARCH: INSIGHTS INTO TREATMENT MODALITIES AND TRIAL METHODOLOGIES

Notable clinical trends within oncology research are shaping the landscape of cancer treatment modalities and trial methodologies. Dr. Hashigami details the global paradigm shift towards immunotherapy agents, a trend also observed in Asia. He also notes the rising prominence of Checkpoint Inhibitors (CPIs), "CPIs like nivolumab and pembrolizumab are becoming the new 'backbone' of systemic anticancer regimens, owing to their efficacy and duration of response." Dr. Hashigami emphasizes the competitive trend among emerging biopharma entities to develop new therapies that can be effectively combined with CPIs to increase response rates in immuno-oncology. He acknowledges the challenge of patient availability in this competitive trial landscape and stressed the importance of establishing thorough scientific rationale for proposed combination regimens to facilitate effective trial enrollment.

Dr. Watanabe highlights the transformative impact of molecular targeted agents and immunotherapy on cancer treatment in recent decades. He also points to the emergence of novel technologies, such as antibody-drug conjugates (ADCs), bi- or tri-specific antibodies, and cellular therapy, which have accelerated the discovery of new drugs with broader indications. Dr. Watanabe anticipates an increase in oncology clinical trials as a result of these advancements. He notes that the methodologies of clinical trials will evolve accordingly, citing cellular therapy as an example that requires only one administration, necessitating adjustments in the frequency of patient visits and monitoring of adverse events.

ASSESSING THE FEASIBILITY OF NOVEL THERAPEUTIC MODALITIES IN ONCOLOGY CLINICAL TRIALS

Incorporating novel therapeutic modalities, such as immunotherapy or targeted therapy, into oncology clinical trials requires careful evaluation and consideration, as stressed by our experts. Dr. Hashigami emphasizes the importance of evaluating scientific rationale, available pre-clinical and clinical data, and the therapeutic landscape.

"Consideration on patient selection criteria, biomarker-driven approaches, and the positioning of the Investigational Product (IP) into current treatment standards would also be critical core elements," shares Dr. Hashigami.

Dr. Watanabe touches on the significance of combination therapies in maximizing treatment benefits in oncology. However, he acknowledges that, "the efficacy and safety of the combination are not always predictable. For example, in the early days of anti-PD-1/PD-L1 development, there were concerns of the combination with standard chemotherapies because chemotherapy is often immunosuppressive." Dr. Watanabe also expressed his enthusiasm for recent results observed with the combination of ADCs and immunotherapy, highlighting the ongoing exploration of effective treatment combinations tailored to specific diseases. As oncology enters a new era of therapeutic innovation, the journey to identify optimal combinations remains a key focus, driving feasibility assessment of novel therapeutic modalities in clinical trials.

SHAPING THE FUTURE OF PRECISION MEDICINE IN ONCOLOGY TRIALS

The exponential growth of precision medicine in the Asia Pacific region is reshaping the landscape of oncology trials. According to a recent study, the total amount spent on precision medicine treatment in Asia Pacific is projected to increase from $7.39bn in 2022 to $16bn in 2027.[3] Additionally, growing investments and the rise of chronic illnesses, such as cancer, are the main contributors to the increased precision medicine activity in Asia Pacific.[4]

"There is great potential for precision medicine," states Dr. Hashigami, who cites the transformative impact on drug development seen with targeted therapies like crizotinib in ALK mutation-positive lung cancer. "In this case, the druggable target was discovered in 2008 [in Japan], and crizotinib was approved for clinical use in 2012 [as a US-Japan simultaneous filing and approval]. Target discovery to bedside in four years was previously an unthinkable acceleration of drug development timelines, here made possible by precision oncology." Challenges remain, such as tumor resistance. "Targeted small molecule agents can have high initial efficacy, but the tumor invariably develops resistance and returns," shares Dr. Hashigami. "Recent advances in combining targeted ADCs [antibody-drug conjugates] and precision small molecule inhibitors with CPIs seek more durable tumor responses, and is a highly competitive trial space."

Cutting-Edge Technologies

Looking forward, our experts discussed the pivotal role of cutting-edge technologies, such as artificial intelligence (AI) and genomics in accelerating the growth of precision medicine in oncology. "There are so many possibilities with AI and other cutting edge tech solutions," shares Dr. Hashigami. He envisions AI rapidly elucidating molecular escape pathways that confer resistance to targeted therapies and aiding in the design of new molecules targeting multiple oncogenic pathways to improve treatment outcomes. "The growth of precision medicine in oncology goes hand-in-hand with discovering and developing new drugs," says Dr. Watanabe. He expresses his curiosity regarding AI's potential in identifying novel molecular targets, stating, "As many of the pipeline drugs are based on molecular targets, the need for precision medicine is growing."

Biomarker-Driven Oncology Trials

"Biomarker-driven cancer trials will only continue to increase," shares Dr. Hashigami when discussing the evolving landscape of biomarker-driven oncology trials in the Asia Pacific region. Dr. Hashigami predicts an increase in target-directed, tumor-agnostic trials, supported by numerous successful drug development programs validated over the past decade. Dr. Watanabe emphasizes the importance of aligning biomarker-driven trials with patient demographics, disease prevalence, and medical practices in the region, underscoring the necessity of experienced investigators in oncology clinical trials.

As precision medicine continues to revolutionize oncology, the Asia Pacific region stands at the forefront of innovation, poised to drive groundbreaking advancements in cancer treatment.

ADVANCING CANCER RESEARCH WITH ANTI-BODY DRUG CONJUGATES (ADCS) IN ASIA PACIFIC

Antibody Drug Conjugates (ADCs) are emerging as pivotal agents in the realm of cancer research, with significant contributions from the Asia Pacific region. Globally, there were over 900 industry-initiated, ongoing ADC trials between 2018 and 2022, of which Asia Pacific occupied over a third of the trials.5

Dr. Hashigami underscores the potential of ADCs in combination with immunomodulatory agents, highlighting their ability to activate various antitumor responses. He cites the notable success of trastuzumab deruxtecan combined with checkpoint inhibitors (CPIs) in metastatic breast cancer, which led to enhanced response rates and improved survival outcomes. Dr. Hashigami anticipates further advancements in ADC design to enhance tumor immunogenicity, potentially extending the benefits across a broader spectrum of tumors.

Conversely, Dr. Watanabe emphasizes the expanding landscape of ADCs in clinical development, driven by their broader target molecule spectrum compared to conventional therapies. He acknowledges the historical safety challenges associated with ADCs but notes significant improvements, particularly evidenced by promising efficacy outcomes in Phase III trials. Dr. Watanabe expresses optimism regarding the continued preference for ADC approaches, spanning from drug discovery to clinical application, reflecting their evolving status as a preferred strategy in oncology therapeutics.

ANTICIPATING THE NEXT DECADE - CLINICAL ONCOLOGY PREDICTIONS FOR 2025-2035

As we envision the future of oncology clinical development, the insights from our in-house experts shed light on the transformative potential of emerging technologies and methodologies. “A deepened understanding of tumor immunogenicity will be impactful in advancing new drug development and cancer treatment overall,” explains Dr. Hashigami, “CPIs have been rapidly standardized owing to remarkable and durable efficacy, but only for the 25~35% of patients that respond.” Enhancing overall cancer treatment outcomes will depend on shaping new drug development strategies based on advancements in cancer immunology. “This will lead to the development of new therapies (and combinations of therapies) that increase overall tumor response rates and patient survival,” states Dr. Hashigami.

Concurrently, Dr. Watanabe emphasizes the imperative of maximizing efficacy and enhancing safety in the development of oncology drugs. With cancer treatment aiming for cures, advancements are evident, yet there remains a considerable distance to transverse. “I believe that integrating and optimizing these emerging technologies and methodologies can be a practical approach,” says Dr. Watanabe. By leveraging these tools, the aim is to translate promising responses seen in clinical trials into tangible advancements in cancer therapeutics.

The collective vision of our expects align towards a future where a deeper understanding of tumor biology, coupled with optimize drug development approaches, holds the promise of reshaping the landscape of oncology clinical development in the coming decade.

SELECTING STRATEGIC PARTNERS: NAVIGATION CLINICAL TRIAL OUTSOURCING IN ASIA PACIFIC

When considering outsourcing clinical trials in the burgeoning Asia Pacific region, several factors emerge as crucial considerations for biopharmaceuticals companies. Dr. Hashigami emphasizes the paramount importance of partnering with organizations well-versed in local regulations, treatment standards, and disease demographics. This ensures not only compliance but also an understanding of the unique medical landscape within each country. He further underscores the advantage of selecting partners committed to proactive engagement with local regulators and experts, suggesting that such organizations possess valuable cultural competence and a proven track record of success.

Echoing these sentiments, Dr. Watanabe highlights two essential aspects that biopharmaceutical companies should prioritize when choosing a clinical trial partner, "First of all, the quality of the trial management. Second, their speed of delivery." Given the diverse medical practices, regulations, and disease burdens across the Asia Pacific region, an experienced trial team familiar with the nuances of each country is indispensable. This expertise enables efficient navigation of regulatory processes and ensures that trials are conducted seamlessly across various regions. By prioritizing these factors, biopharmaceutical companies can forge partnerships that optimize trial outcomes and accelerate the development of innovative therapies in the Asia Pacific region.

YOUR ONCOLOGY BREAKTHROUGH STARTS HERE

In closing, our oncology experts have covered the multifaceted landscape of oncology clinical development in the Asia Pacific region, exploring key growth factors, emerging trends, and future prospects. Amidst the opportunities and challenges presented within the landscape, one overarching theme remains clear: the indispensable role of CRO partnerships in navigating the complexities of oncology clinical research and development. By harnessing the expertise, agility, and resources offered by CRO partners, biopharmaceutical companies can enhance their therapeutic capabilities, streamline regulatory pathways, and foster continuous innovation.

As we look ahead, the imperative for forging strong partnerships with CROs becomes increasingly evident, paving the way for transformative breakthroughs in oncology and ultimately improving patient outcomes worldwide.

MEDPACE ASIA PACIFIC DRUG DEVELOPMENT SERVICES

As a global CRO with an operational footprint across 42 countries, Medpace has broad experience designing and conducting Phase I-IV clinical trials around the world. Our medical, regulatory, and operational experts have the experience to advance your medical therapeutic in any region. Since establishing our Asia Pacific presence in 2004, our medical and operational specialists have country-specific expertise, which allows them to integrate local language, culture, and requirements into study conduct, to deliver faster enrollment, and obtain access to country-specific patient populations. Our regulatory experts can plan and coordinate each aspect of regulatory strategy and engagement – locally and globally.

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