

EDITORIAL

Current Trends in Cancer Research

Cancer research encompasses a broad range of areas. It includes basic, translational, epidemiological and therapeutic research that overlap. The ultimate goal of cancer research is to impact on the reduction of morbidity and mortality brought about by this dreadful disease. The Malaysian Journal of Medicine and Health Sciences provides a platform for discussing and publishing well-written articles on cancer research.

Basic research related to cancer deals with the pursuit for new knowledge and narrowing the gaps in our current knowledge. The focus is on the mechanisms in the cell that makes it cancerous. This involves research in the signaling pathways, replication and growth, angiogenesis, invasion, metastases, and the molecular basis of resistance to cytotoxic agents. This particular area of research is challenging as on one hand, the research may have no clinical application in terms of improved diagnostics or therapeutics in the long run, and on the other, it may provide interesting clues that could bring the research to another level.

Translational research leads to better diagnosis, prognosis, classification or therapy for cancer. The so-called 'Omics' era from the genome to proteome is here to stay, since much potential is seen in its application from bench to bedside. Hence, the translational approach has been hailed as one that justifies the tax payer's money spent on research. With the current emphasis on biotechnology that can lead to commercialisation, a balance needs to be struck between industry and academia that could bring about potential marketable solutions.

Epidemiological research may not be as exciting as cutting-edge basic, translational or therapeutic research, but the much needed input through observational and interventional research can generate hypothesis that may in turn start a new area for basic or clinical research. For example, this can be seen in the relatively new area of nutrigenomics, an area in basic research which studies food and diet and how each interacts with specific genes to increase the risk of certain diseases. In addition, epidemiological research also provides data on population trends in morbidity and mortality since in some cancers, the reduction in mortality can be attributed to changes in lifestyle, early detection, increased public awareness, better diagnostic tools and more sensitive screening methods.

Therapeutic research or clinical research is carried out mainly to refine cancer diagnosis, improve survival or quality of life or reduce treatment toxicity. It is thought to be at the forefront of medical research since its findings can have a direct and immediate effect on patients. Historically, the much-acclaimed randomised control trials were initiated in the field of cancer in the 1940s. Today, clinical cancer research is focused on phase I-III trials of cytotoxic designer drugs that have a far less impact on survival. Unfortunately, not much

progress has been seen in cancer surgery or radiotherapy since the eighties and nineties when organ and function preservation with conservative surgery emerged. Current research in cancer surgery is on comparative modalities and exploiting improvements in material science and instrumentation, while research in radiotherapy is focused on combined modalities, dosage and the protection of normal tissues.

There is no doubt that cancer research will continue to escalate as better and more refined techniques are developed in all the different areas outlined above. Innovative thinking is the order of the day and should be based on outputs from basic research. However, for any cancer research program to work, a holistic approach needs to be adopted. Hence, not one area is more important than the other nor can one area be successful working in isolation. But in our quest to find the elusive cure for all cancers, we must also concentrate on those diagnosed with cancer with care and sensitivity as they are not mere research subjects but human beings with emotions and feelings. One of the tenets of medicine is to alleviate human suffering and this should be the ultimate aim of our endeavour.

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