Welcome to Journal of Cancer Stem Cell Research

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We all have family and friends who have had their lives interrupted by the diagnosis of cancer. Throughout the world, the onset of cancer has led to courageous battles fought in hospitals and living rooms. Some of these battles have concluded successfully with a cure. Unfortunately, and too frequently, many of the individuals waging these battles are initially ‘cured’ only to suffer an eventual major setback. These patients fight new battles with fewer and fewer options, and far too often the therapeutic arsenal proves insufficient for these individuals.

The word cancer does not allow you to remain stoic. In fact, few other words evoke more fear and provoke such a visceral feeling. The awakening of disseminated but dormant tumor cells years after initial treatments is a constant fear for all who have ever heard the diagnosis of the “Big C”. The cost to those diagnosed with cancer is enormous, not just in terms of the loss of human capital, but in the emotional and physical costs for patients and their families where there often never really is a “cure.” As we are learning from time-to-dissemination studies, a “cure” is often just a temporary truce. A temporary lull in a battle between quiescence and the awakening of a silent enemy can parasitize the very essence of what it is to be human. The “war on cancer” certainly has not been won.

Our emerging understanding of the complexity of cancer as heterogeneous spectrums of diseases brings hope that someday we will be positioned to target the molecular, cellular, host and matrix interactions that decide the course of disease. We are all uplifted by the increasing pace at which basic and clinical-translational studies are achieving winning battles in the clinic, even if for a limited time. The dissection of new and more complex pathways which regulate neoplastic/metastatic growth provides hope that soon we will be able to specifically target cancer cells with a diverse armamentarium and with laser precision. The hope is that treatment will be rapid and life altering, while collateral damage to the ‘civilians’ will be minimal. While we celebrate our science and our emerging therapeutics, we must also lament how we fund and prioritize science and treatment – each impacted by frivolous debates which divert our resources from discovery and cure. Collectively we must do more.

One of the shining achievements in the battle with cancer is the understanding that some malignancies are organized in a hierarchical fashion, as are all normal tissues. In normal tissues, stem cells occupy the top of the cellular pyramid. These cells have the ability to divide and self-renew while generating progeny which are increasingly committed to mature phenotypes. Like these normal stem cells, a subset of cells in many solid and hematogenous tumors, display stem-like activities. They have the ability to function as if they are stem cells for the development of tumors, or as they are commonly called, cancer stem cells (CSC). With this understanding, as with most of new paradigms, comes the insight that we know far less than we thought we knew. For example; (i) what is the cell of origin of CSCs, (ii) what regulates the self-renewal and differentiation, (iii) what are their relationships with their microenvironment or niches, (iv) do they in fact represent pre-metastatic seeds or are metastases generated in a different and as yet unknown fashion, (v) how do CSCs become dormant, (vi) do CSCs proliferate slowly as dormant cells or are they non-proliferative and remain in a suspended state, and most importantly (vii) how can we target these cells specifically for therapy.

To help answer all these emerging questions we have founded a new journal. One designed to give voice to the millions of cancer victims and those who love them, and who desperately need answers. The cancer stem cell hypothesis, while still a relatively new concept, is just starting to have impact in the clinic. It is a provocative concept, as it provides partial answers to discrepancies in existing data and clues for future discoveries. We at the Journal of Cancer Stem Cell Research hope that you will share with us the excitement that a new journal brings and will join us on the path to discovery.