In normal adult tissues and organs, stem cells are able to rapidly change into new cell types for wound repair and tissue maintenance. However, under stress conditions such as injury or damage, these cells are able to rapidly change into new cell types for wound repair and tissue maintenance. Cancer stem cells may possibly arise from normal adult stem cells which acquire genetic mutations. Alternatively, they may originate from mature cells that regress into a stem cell-like state. Recently, much effort has been devoted to defining the exact cell of origin for specific cancers. This is an attractive outcome. Knowing the cell type in which a cancer originates can potentially allow us to develop diagnostics and therapies that target that cell.

Potential cancer stem cells are believed to mimic normal stem cell properties of slow growth and low multiplication rate. Traditional chemotherapy and radiotherapy is generally aimed at killing cancer cells. However, many cancer cells of origin may survive these treatments which, in time, may lead to a recurrence of the cancer.

The aim is to eradicate the bulk of tumour cells. However, the cancer cells of origin may survive these treatments which, in time, may lead to a recurrence of the cancer. With advances in experimental methods and stem cell identification, it is expected that we will soon further understand the role of stem cells in cancer.