Communicating complex scientific research ideas for curing lung cancer using North East Indian folklore and visual art

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Biography

Scientist-by-day and artist-by-night, I am primarily interested in therapeutic oncology. During the day, I work in a lung cancer research lab at the University of Texas Southwestern Medical Center. During the nights, I work in visual art studios. In the lab, I focus on the details of cancer causing genes and the related signaling pathways. In the studio, I try to look at the same problem from unusual and different perspectives. For me, these two different ways of thinking generates novel project ideas. In addition, presentation of complex scientific hypothesis in aesthetic manner broadens the scope and the audience of my work (*Figures 1–3*).

Description of work

My current artworks take a spin on the idea of therapeutic oncology with a North East Indian (Bengali) folklore "The gold wand and the silver wand." In this folklore, conspired by a demoness queen, after losing his family and friends, a prince visits a dangerous land. There he finds a beautiful princess imprisoned by a legion of demons. The only way to kill the demons and rescue the princess is to slice seven heads of a ferocious snake with a magical golden scythe.

Lung cancer is similar to this multi-headed snake with many cancer causing genes (oncogenes). The problem is we do not have the special golden scythe i.e., drugs to directly target these oncogenes. Interestingly, these oncogenes can alter the signaling of several biochemical pathways involved in many cellular functions. My research in the lab focusses on finding alterations in this signaling pathways and use them as druggable targets to eliminate the lung cancer cells.

Figure 1 Searching for the multi-headed snake. The search for the oncogenes and the altered signaling pathways is an exploratory phase in research with many unknown parameters. To capture the fear for unknown this scene is set in the dark. Here, the prince is trying to capture the seven headed snake swimming underwater. (Charcoal and watercolor on paper, photography with slanted light source and ADOBE Photoshop, ©2016).

Figure 2 Killing the multi-headed snake with a golden scythe. Using a comic book style, this scene illustrates the moment when the prince is about to kill the seven headed snake with the golden scythe while the demons are closing in from all directions. This situation makes me think about the other environmental factors inside the body involved with the tumor progression. (Pencil, charcoal, watercolor on paper and ADOBE Photoshop, ©2016).

Figure 3 Tumor microenvironment. This illustration captures several concurrent phenomenon inside the body during the tumor progression: interaction between healthy cells and tumor cells (paracrine signaling), blood vessel formation (angiogenesis), interaction between tumor cells and immune cells (as reinforced in immunotherapy), etc. (Acrylic on canvas, ©2016).

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Footnote

Conflicts of Interest: The author has no conflicts of interest to declare.

