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Dr Kang is a Professor at Yonsei University's Severance Hospital in Seoul, Korea. His clinical practice focuses on glioma surgery, and his research interests lie in translational research related to glioblastoma (GBM). Since becoming a neurosurgeon in 2000, he has pursued ongoing research on GBM. His primary areas of investigation include cancer stem cells, the cell of origin, mesenchymal stem cells, the bioenergetics of GBM, and the subventricular zone (SVZ). Notably, his research team recently made a significant breakthrough in identifying the SVZ as the origin site of GBM. This finding suggests that the tumor itself may not be the point of origin for the cancer. The team are currently capitalizing on this knowledge to develop novel therapeutic approaches and to further elucidate the underlying biological mechanisms of the disease. To date, he has published 196 peer-reviewed articles, filed and registered 92 patents, and facilitated 4 technical transfers. (ORCiD: https://orcid.org/0000-0001-5676-2037 & h-Index 41)

Topic: Underlying Causes of Human Glioblastoma Development, Anatomical Point of Initiation and Cell of Origin

Glioblastoma (GBM) exhibits a unique pathogenesis compared to other solid cancers. Unlike typical adult solid cancers, which arise from somatic mutations at the tumor site, GBM originates from somatic mutations in the subventricular zone (SVZ), far from the eventual tumor location. This distinct origin likely contributes to the ineffectiveness of conventional cancer treatments in addressing GBM. In this presentation, we will explore the initiation of GBM in the SVZ and the specific characteristics of the GBM origin-cells within SVZ. We will examine the experimental evidence that highlights these characteristics and discuss innovative strategies for targeting these GBM origin-cells. These strategies differ from traditional approaches that primarily focus on the tumor cells themselves. Furthermore, we will provide an overview of the current research in our laboratory concerning the cells of origin for other types of brain tumors. Our goal is to enhance the understanding of GBM genesis and improve therapeutic approaches.