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HGG-07. INVESTIGATING THE ROLE OF SENESCENCE IN PEDIATRIC HIGH-GRADE GLIOMAS
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Cellular senescence has expanded well past the original definition of just proliferative exhaustion and tumor suppression. Today, senescence is considered a “Hallmark of Cancer” and the senescence-associated secretory phenotype (SASP) secretes molecules that can promote oncogenesis, angiogenesis, and an immunosuppressive tumor microenvironment (TME). Pediatric high-grade gliomas (pHGGs) are aggressive brain tumors with dismal outcomes and limited therapeutic options. Accumulating evidence suggests potential therapeutic vulnerabilities in targeting senescence in adult solid and brain tumors. Furthermore, senescent immune cells in the TME appear to play an important role in the initiation and progression in adult solid tumors. The role of senescence in pHGGs, however, has not been well described. Here, we show evidence of senescent glial and immune cells in pHGG tumors. Using patient-derived cell lines, we also investigate triggers of senescence and further characterize SASP in pHGGs. By understanding the role of senescence in gliomagenesis, we hope to open new approaches in treating pHGGs.