Title: Adult human neurogenesis: A view from two schools of thought.

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Abstract:
Are we truly losing neurons as we grow older? If yes, why, and how can the lost neurons be replaced or compensated for? Is so-called adult neurogenesis (ANG) still a controversial process, particularly in the human cerebral cortex? How do adult-born neurons -if proven to exist- contribute to brain functions? Is adult neurogenesis a disease-relevant process, meaning that neural progenitor cells are dormant in adulthood, but they may be reactivated, for example, following stroke? Is the earnest hope to cure neurological diseases justifying the readiness to accept ANG claim uncritically? These are all fundamental issues that have not yet been firmly explained. Although it is completely understandable that some researchers believe that we can add new neurons to our inevitably deteriorating brain, the brain regeneration process still possesses intellectually and experimentally diverting views, as until now, there has been significant confusion about the concept of ANG. Adult neurogenesis (ANG) refers to 'the birth of neurons in the adult brain where progenitor cells with proliferative potential are the foundation of neurogenesis' (Ming & Song, 2011). Thymidine-H3 labeling technology (HA Johnson, 1961) and the thymidine analog bromodeoxyuridine (BrdU) were introduced to identify the birthdate of cells, where this marker is supposedly incorporated into DNA during S-phase of the cell cycle and thus is widely considered a marker of DNA synthesis (Kaplan & Hinds, 1977). Although many researchers have identified BrdU in the granule cells of the dentate gyrus and olfactory bulb postnatally, it was later reported that these labeled cells declined rapidly with increasing age (Goldman & Nottebohm, 1983). The authors analyzed proliferating neuronal progenitors and immature neurons in the human hippocampus surgically removed from control and epileptic patients, and found that there is no difference between control and epileptic hippocampus, both of them are scanty.

Biography:

1)Yasir Alshebib, TomokatsunHori, et al., Adult human neurogenesis: A view from two schools of thought. IBRO Neuroscience Reports, Accepted date: 27 July 2023.