ABSTRACT

The human brain consists of billion cells and they develop in such a process named neurogenesis. During the neurogenesis, several chemicals may affect the normal process. One of them is the most famous bisphenols, particularly Bisphenol A. Despite it is widely produced in consumer products and ubiquitous in the environment, Bisphenol A is known as an endocrine disruptor since it can interfere with the endocrine system and produces adverse effects in many organs. Accumulating evidence indicates that BPA has detrimental effects on neurological development. This harmful potential leads many companies to produce polymers using a safer product by substituting Bisphenol A with Bisphenol S. There is still lack of studies to determine the safety of Bisphenol S, and this study aimed to provide whether Bisphenol S also exert toxicity effects. Pregnant mice were given Bisphenol S orally starting from the embryonic day 0 until embryonic day 14. The dams were dissected and the embryonic brains were harvested for the tissue processing and hematoxylin-eosin staining. Our results show that Bisphenol S significantly increase the cell proliferation and migration at ventricular and subventricular zone while reducing the development of subplate, and interestingly there was no intermediate zone observed in all treated embryos. This may suggest that Bisphenol S is able to exert toxicity effect on brain mice embryos.