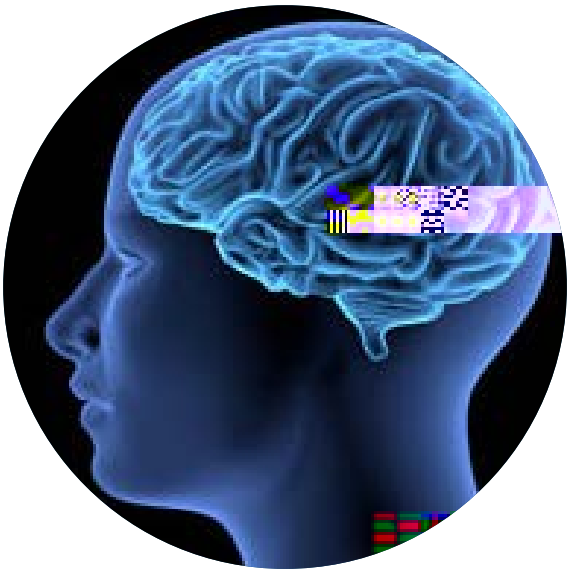

ACCEPTED ABSTRACTS

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Mark S. Kindy
University of South Florida, USA

Serum amyloid A (SAA) proteins increase dramatically in the blood following ischemic injury. e impact of SAAs in the pathogenesis of stroke was addressed in this study. Wildtype and SAA de cient mice wer exposed to transient intraluminal middle cerebral artery occlusion (MCAo), examined for infarct volumes, behavioral changes, in ammatory markers, TUNEL staining, and BBB changes. In addition, over expression of SAA via transgene or viral vectors were examined in the SAA de cient mice. SAA levels were signi cantl increase following ischemia and reperfusion injury (IRI) and mice de cient in SAAs showed reduced infarct volumes and improved behavioral outcomes. SAA de cient mice showed a reduction in TUNEL staining, in ammation and decreased glial activation. Mice lacking both acute phase SAAs demonstrated a reductio in expression of the NLRP3 in ammasome protein and SAA/NLRP3 KO mice showed a slight improvement. Restoration of SAA expression via SAA tg mice or adenoviral expression reestablished the detrimental e ects SAA on infarct volume. A reduction in BBB permeability was seen in the SAA KO mice and anti-SAA antibody treatment reduced the e ects on ischemic injury. e data suggest that acute phase SAAs play an injurious role in stroke outcomes. erefore, therapeutics that target elevated SAA levels following stroke might help to reduce the harmful e ects and improve long-term consequences.

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Shahram Naderi
Islamic Azad University, Iran

One of the e ects of oxytocin is to create relaxation in animals. Furthermore, dance and music are two tools fo relaxation. On the other hand, dance and music enhance the e ects of oxytocin. Music can encourage soc interactions and promote trust and cooperation in culturally (not genetically) compatible individuals, stimulating reward and motivation and enhancing learning and memory capacities. ese e ects of music on trust, empathy, reciprocal behaviors, group harmony, anxiety, and social decision-making resemble those of oxytoci Psychological processes might induce the release of oxytocin, meaning that positive interactions, includin friendly relationships, can promote health. e social interactions of daily life, along with a positive atmosphere, continuously activate the oxytocin system. Because both oxytocin and beta-endorphin are endogenous bra peptides, the data suggest that endogenous oxytocin might modulate the sensitivity of the CNS to repetitive or lo term stimulation by opioids, hindering tolerance to endorphins. e brain opioid theory of social attachment has been proposed to explain the neural basis of social bonding. Brain endorphins are activated by a variety of soc activities, including social touch, laughter, singing, dancing, and partying. Morphological evidence indicates th in uence of oxytocin on the activity of the brain betaendorphin system in the hypothalamus . According to these pieces of evidence, endogenous oxytocin rises if individuals are involved in-group games and enter empathetic and supportive environment. Oxytocin is released through a variety of nonharmful sensory stimuli such as touch and heat. Nature reduces anxiety and stress, shortens the hospitalization period, lowers the h rate, and augments guided focus. In addition to nonharmful sensory stimuli, oxytocin can also be released by t stimulation of other senses, such as the olfactory and visual, and by certain types of sounds and lights . erefor all the bene ts of being in untouched and wonderful nature can be mediated by oxytocin. A combination of targeted non-drug group therapies throughout the day (such as Listen to music in groups, group dancing, grou

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Xuhua Wang

Zhejiang University, China

Despite tremendous unmet medical needs, there is no effective pharmacological treatment to promote functional recovery after spinal cord injury (SCI). Although multiple pathological events have been implicated in SCI, the development of a noninvasive pharmacological approach to simultaneously target the different mechanisms involved in SCI remains a formidable challenge. In this study, we report the development of a noninvasive nanodrug delivery system that consists of ROS-responsive amphiphilic copolymers and an encapsulated neurotransmitter-conjugated KCC2 agonist1,2. We show that upon intravenous administration, the nanodrugs were able to enter the injured spinal cord due to blood spinal cord barrier disruption and ROS-responsive disassembly. Remarkably, once in the injured spinal cord, these nanodrugs exhibited dual functions: scavenging ROS accumulated in the lesion to protect spared connections and increasing neuronal excitability of the injured spinal cord through targeted delivery of the KCC2 agonist to inhibitory neurons. Thus, the noninvasive treatment led to significant functional recovery in the rats with contusive SCI3. Together, these findings provide a much-needed translational pharmacological approach for treating severe SCI