

OXYTOCIN, LOVE AND THE COVID-19 CRISIS

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As brilliantly described by Dr. Phuoc-Tan Diep et al. (Diep, Buemann, Uvnäs-Moberg, 2020) in "Oxytocin, a possible treatment for COVID-19? Everything to gain, nothing to lose," it is very plausible that the presence (or absence) of oxytocin could help explain the patterns of vulnerability seen in the COVID-19 epidemic. This is wonderful news for those who survive and suggests that oxytocin might be used as a treatment for COVID-19 patients who are suffering from what appears to be an over-reactive immune response to this virus (Buemann, Marazziti, Uvnäs-Moberg, submitted).

Epidemiological research has long supported the therapeutic power of social support and "love." There is strong evidence that the physiological benefits of human social attachment include the actions of the mammalian peptide hormone known as oxytocin (Carter, 2017). Oxytocin is now applied in roughly half of all hospital births to induce or facilitate labor. It affects tissues throughout the body including brain, autonomic nervous system and immune system helping to deliver babies, milk and affection.

Evidence for the healing power of oxytocin is impressive, possibly due directly to the capacity of oxytocin to overcome inflammation, and thus suggesting a way to reduce damage from COVID-19. In addition, oxytocin appears to help normalize the functions of the brain, autonomic nervous system, immune system and mitochondria, and might help reduce the fatigue and other post infection consequences of this virus (Bordt, Smith, Demarest, Bilbo & Kingsbury, 2019).

Under ideal circumstances preclinical studies would be done, first testing the effects of oxytocin against the COVID-19 virus. However, these are not ideal circumstances, and this approach would be too slow to help the hundreds of thousands suffering from this infection. Even in the absence of such studies there is strong evidence that oxytocin could be added immediately to the battery of molecules being tested as **acute** treatments for COVID-19.

It will be very important to future understanding of viral illness in general to know more about the endogenous levels of oxytocin and its receptors in individuals who are asymptomatic or who are exposed do not become infected. For example, does oxytocin really explain why women are less vulnerable to COVID-19?

Oxytocin is globally available, inexpensive and, especially when given acutely and in nonpregnant adults is safe with few known side effects. Although oxytocin is considered a nontoxic molecule, the route of administration (intravenous or intranasal), dose and duration of treatment matters. However, in excessive amounts oxytocin may act on receptors for other systems, such as vasopressin, that are actually "proinflammatory" (Carter, 2017). It is critical that this work be done in the context of data collection and be conducted as controlled clinical trials.

References

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