Psychiatry Grand Rounds WCM Department of Psychiatry

Psychology CE Announcement

Infant neurobehavioral processing of the parent

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SPEAKER: Dr. Sullivan has no relevant financial relationship(s) with ineligible companies to disclose and DOES NOT INTEND to discuss off-label or investigational use of products or services.

Regina M. Sullivan, PhD, is a developmental-behavioral neuroscientist who works at the Nathan Kline Institute and the Department of Child and Adolescent Psychiatry at New York University Langone Medical Center. She has been conducting research on the neurobiology of infant attachment to the caregiver in infant rodents using a bi-directional translational approach for several decades. Her studies have shown that the infant's brain functions differently from the adult brain and has unique brain circuits during early life to support age-specific behaviors, including a circuit for attachment learning and a circuit for expressing attachment. Her recent research focuses on the expression of attachment, with a particular emphasis on the infant's response to the parent and the infant's processing of the mother as a safety signal. She has demonstrated that an infant's experiences with a maltreating mother can produce later-life pathology, but also subtle changes in the infant's processing of the mother, especially under stress.

Abstract:

Children, and other altricial species, require parental care for survival and bi-directional attachment provides a social framework for this care. For infants, this is a robust system where survival is dependent upon quickly learning the attachment figure and emitting prosocial behaviors that elicit caregiving. Using infant rodent specific attachment to the mother, we present data that aligns with human responsiveness to parents to define networks and circuits. Attachment learning and attachment expression have distinct circuits and we will focus on how the attachment expression circuit differs in nurturing and maltreatment relationships. While the major effects of maltreatment are delayed until later life, there are subtle markers in early life associated with using the parent as a safety signal related to the ventral tegmental area (VTA)-basolateral amygdala (BLA) circuit. We suggest that understanding infant attachment expression requires direct assessment of the infant brain, rather than using circuits identified in the adult brain. Further we suggest that deconstructing complex attachment expression into manageable circuit-based behaviors of clinical relevance is required to help guide infant based treatment of attachment disorders associated with later-life pathology.

Learning Objectives:

- 1. Identify one reason why it is not helpful to rely on adult social and maternal learning to inform infant attachment circuits in the immature brain.
- 2. Describe attachment learning and attachment expression brain circuits.
- 3. Discuss the effects of maltreatment on attachment learning and expression brain networks.

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