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Neuroimaging in pediatric neurology: Advances in diagnosing developmental disorders

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The field of pediatric neurology has seen significant advancements in recent years, particularly in the realm of neuroimaging. This presentation will explore the latest developments in neuroimaging techniques and their critical role in diagnosing developmental disorders in children. Utilizing cutting-edge technologies such as PET (Positron Emission Tomography), MRI (Magnetic Resonance Imaging), and fMRI (functional MRI), clinicians can now gain unprecedented insights into the structural and functional aspects of the developing brain. These advancements have not only enhanced diagnostic accuracy but also improved our understanding of the pathophysiology of various developmental disorders, including autism spectrum disorders (ASD), attention deficit hyperactivity disorder (ADHD), and cerebral palsy.

The presentation will discuss how these imaging modalities are employed to identify biomarkers that signify abnormal brain development, track the progression of neurological conditions, and evaluate the efficacy of therapeutic interventions. Case studies will be presented to illustrate the practical applications of these technologies in clinical settings, highlighting their impact on treatment planning and outcomes. Additionally, the session will address the challenges and limitations associated with pediatric neuroimaging, such as the need for sedation, motion artifacts, and the ethical considerations in imaging young children. By the end of this presentation, attendees will have a comprehensive understanding of the pivotal role neuroimaging plays in pediatric neurology and its potential to revolutionize the diagnosis and management of developmental disorders.

Biography

Hissa Mohammed is a Medical Radiography Instructor at the University of Doha for Science and Technology, a position she has held since December 2020. She earned her Master's degree in Medical Imaging from the University of Aberdeen. Hissa is passionate about neuroimaging and its applications in pediatric neurology. Her work focuses on advancing diagnostic techniques for developmental disorders, aiming to improve patient outcomes through innovative imaging solutions.