Brain imaging studies in Asian children

Mo-S-249
Effect of childhood emotional maltreatment on brain development: DTI study
J. Choi a, b, B. Jeong b, M.H. Teicher c
a Department of Psychiatry, The Catholic University of Korea, Daejeon, Korea
b Graduate School of Medical Science and Engineering (GSMSE), Korea Advanced Institute of Science and Technology (KAIST), Daejeon Metropolitan City, Korea
c Department of Psychiatry, Harvard Medical School, Belmont, USA
*Corresponding author.

Several studies have shown that exposure to childhood abuse is associated with alterations in brain structure and function. We sought to ascertain whether childhood emotional maltreatment such as parental verbal abuse, witnessing domestic violence was associated with abnormalities in white matter tract integrity using diffusion tensor imaging. First study explored 16 unmedicated subjects with history of high-level exposure to parental verbal abuse but no other form of maltreatment and 16 healthy control subjects, showing abnormalities in arcuate fasciculus, cingulum bundle, and the fornix, which were associated with verbal IQ and many psychiatric symptoms. The second study included 20 subjects who visually witnessed domestic violence (WDV) during childhood and 27 healthy unexposed controls. The inferior longitudinal fasciculus, which connects visual system to limbic system, showed abnormality in WDV group and was maximally susceptible to WDV between ages 7–13 years. Childhood emotional maltreatment may alter specific brain regions on sensitive periods by specific childhood adversities.

http://dx.doi.org/10.1016j.neurenf.2012.05.241

Mo-S-250
Control network in children with attention deficit hyperactivity disorder – resting-state functional connectivity MRI study
H. Lin
Department of Psychiatry, National Taiwan University Hospital, Taipei, Taiwan

Despite extensive imaging research on attention-deficit hyperactivity disorder (ADHD), whether the frontoparietal control network, which underpins cognitive control, is involved in neurobiological mechanisms of ADHD remains unexplored. The authors investigated the functional connectivity of the frontoparietal control network in 16 medication-naive children with ADHD (8–13 years, mean age 10.13 ± 1.75; 14 boys) and 16 age-, sex-, IQ-, and handedness-matched typically developing children. The data of the resting-state blood oxygenation level dependent functional MRI was collected from 3T-MRI system. The results showed that children with ADHD had weaker connectivity within the frontoparietal network, including connectivity between the left caudal body and bilateral insula, and between the left anterior prefrontal cortex and the superior frontal gyrus than typically developing children. Our finding of aberrant connectivity within the frontoparietal network in ADHD warrants further correlations with clinical symptoms and neuropsychological profiles to explore the biological underpinnings of the disorder.

http://dx.doi.org/10.1016j.neurenf.2012.05.242

Trandisciplinarity and various medical cultures

Mo-S-251
Trandisciplinarity and various medical cultures: Care of young children or teenagers with serious disease in China, Italy and France
E. Lisack a, J. Zhang b, M. Wu c, S. Romanello c
a France
b China
c Italy

The care of young children with serious disease need different medical specialities, and complementary ways of thinking:
– to help these children use their possibilities in the best way;
– and to sustain the families in looking at this special child like a child with an own rhythm in his evolution and not only as a handicapped child.
We shall take account of our different clinical experiences and way of working in our different countries, and use some clinical examples to show how working in an institution with a pluridisciplinary staff, and in trandisciplinarity is important. In another sense, according to some clinical experiences, we could show that working uniquely in the institution can limit the way we look on the children and their possibilities, and that having an intervention from outside of the institution can give support and advice to the staff on very difficult situations.

http://dx.doi.org/10.1016j.neurenf.2012.05.243

Using technology to deliver interventions

Mo-S-255
Sparx: A fantasy based game to treat depression
S.N. Merry
Department of Psychological Medicine, University of Auckland, Auckland, New Zealand

By the age of 19, one in five adolescents will have suffered from a depressive disorder; however, most do not receive treatment. Computerised therapy has the potential to help adolescents with depression because this form of treatment can be delivered flexibly and at low cost. SPARX is an interactive 3D fantasy game designed to deliver cognitive behavioural therapy (CBT) in a computerised format (CCBT). It was developed with the help of young people. SPARX was designed for 13 to 18 year olds with mild to moderate depressive symptoms and it has been formally evaluated in a randomised controlled trial (RCT) comparing CCBT with treatment as usual (TAU) in 24 sites in New Zealand (n = 187). The results of the RCT have shown that SPARX is at least as effective as usual treatment where trained therapists delivered TAU. This presentation will provide a brief overview of the development of SPARX and the results of the RCT before discussing user feedback and allowing workshop attendees to use SPARX.

http://dx.doi.org/10.1016j.neurenf.2012.05.244