EARLY NEUROIMAGING FINDINGS AND NEURODEVELOPMENTAL OUTCOMES OF CHILDREN WITH CCMV (O0065)

Topic
AS06. Infections in early life

Authors
Rubinacci V. [1], Bejarano M.M. [2], Pedrero R. [3], Medina N. [4], Tomé R.L. [2,4], Aragòn A.M. [2], Liebana C. [2], Vila S. [2], Enamorado N.N. [2], Camacho A. [2], Vergas J.D. [2], Manzanares Á. [5], Villaverde S. [5], Zamora B. [2], Blázquez-Gamero D. [5]

Affiliations
1 - Hospital 12 de Octubre, Madrid- University of Milan, Milan (Spain), 2 - Hospital 12 de Octubre, Madrid, Spain (Spain), 3 - Instituto de Investigación Hospital 12 de Octubre (Spain), 4 - Universidad Complutense de Madrid (Spain), 5 - 12 de Octubre University Hospital (Spain)

Backgrounds:
Congenital CMV (cCMV) is one of the leading non-genetic causes of pediatric sensorineural hearing loss (SNHL) and neurocognitive impairment. We aim to study the prevalence of anomalies in cUS and MRI and their possible association with SNHL and neurodevelopment.

Methods
Retrospective study performed in a prospective cohort of 32 pediatric patients with cCMV infection. Clinical and neurological examination with Bayley-III Neurodevelopmental Scale, neuro-imaging and hearing evaluation by auditory brainstem responses were performed.

Results:
At birth, anomalies in cUS were detected in 12 (38.7%) patients being lenticulostriate vasculopathy (n=7), subependymal cysts (n=7) and white matter abnormalities (WMA) the most frequent findings. MRI resulted abnormal in 18 (60%) patients, most of them with WMA (n=9) and periventricular cysts (n=3). SNHL was present in 6 patients, all of which had abnormal cUS and MRI. Last follow-up visit was performed at 23.4 [IQR 11.4-26.2] months of age. Mean Bayley z-scores in cognitive combined IQ, combined language and combined motor scales were within the normal range (-0.2,-0.7,-0.8).When evaluating the presence of WMA in cUS we found relevant differences in expressive language Z scores (-0.9 vs 0; p=0.005). For calcifications in cUS, differences were seen in expressive language (-1 vs 0;p=0.018) and in fine and gross motor Z scores (-1 vs -0.1 and -1.7 vs -0.2; p = 0.048 and 0.05, respectively). We did not find significant differences when evaluating WMA and calcifications in MRI.

Conclusions/Learning Points:
In cUS but not in MRI, children with WMA showed worse results in expressive language, and children with calcifications in expressive language and in fine and gross motor z-scores. Higher sensitivity of MRI allows to detect milder WMA not associated with worse Bayley z-scores. All patients with SNHL had abnormal neuroimaging.