1170. CSF HSV PCR Testing in Adults and Children with Meningitis and Encephalitis

Liliana Parra, MS1; Rodrigo Hasbun, MD, MPH1; Lucrecia Salazar, MD;1
Elizabeth Aguilara, MD2 and Susan Wootton, MD1.1Infectious Diseases, University of Texas Southwestern Medical Center, Houston, Texas, 2Division of Infectious Diseases, University of Texas Health Science Center at Houston, McGovern Medical School, Houston, Texas, 3Division of Infectious Diseases, University of Texas McGovern Medical School at Houston, Houston, Texas, 4Pediatrics, University of Texas Health Science Center, Houston, Texas

Session: 145. Diagnostics: Viral
Friday, October 6, 2017: 12:30 PM

Background. Herpes simplex virus (HSV) is a common treatable cause of meningitis and encephalitis. Delayed antiviral therapy is associated with worse clinical outcomes in HSV encephalitis.

Objectives. To determine the utilization of a cerebrospinal fluid (CSF) HSV polymerase chain reaction (PCR) and identify predictors for a positive HSV PCR result.

Methods. A retrospective review of 751 adults and children with meningitis and encephalitis at 9 hospitals in Houston TX from January 1 2005 to December 31 2010.

Results. Of 751 patients, 331 (44%) underwent CSF HSV PCR testing. Adults were more commonly tested than children (84% vs. 69%, P <0.001). Additionally, patients with more comorbidities and clinical findings of encephalitis (e.g., altered mental status, focal neurological findings, seizures) were more commonly tested for HSV (P <0.001). Patients tested for HSV were also more likely to be evaluated for West Nile Virus, receive empiric acyclovir and have worse outcomes (P <0.001). In total, 48 of 331 (14.5%) patients were positive for HSV HSV PCR. CSF PCR for a positive HSV PCR on logistic regression analysis were stiff neck (odds ratio [OR], 2.181 [1.090–4.366]; P = 0.028), lymphocytic pleocytosis >50% lymphocytes (OR, 6.187 [1.412–27.11] P = 0.016, and CSF protein >100mg/dl (OR, 3.279 [1.105–9.731]) = 0.032.

Conclusions. CSF HSV PCR is undertested in community acquired meningitis and encephalitis and is done more frequently in adults and in those with an encephalitis presentation.

Disclosures. R. Hasbun, Biomerieux: Consultant, Consulting fee Biofire: Speaker's Bureau, Speaker honorarium Medicine's Co: Speaker's Bureau, Speaker honorarium 1

1171. The Expression of hsp-miRNA-200b-3p and -200c-3p in Human Cytomegalovirus-infected Formalin-Fixed, Paraffin-Embedded Tissues

KYOUNG HWA LEE, MD1; SEOEON MIN, MS1; SEUL GI YOO, MD2; BEOUM JIN LIM, MD, PhD3; JONG-HYEON JO, MD1; SANG HOON HAN, MD, PhD4 and YOUNG GOO SONG, MD, PhD5.1Division of Infectious Diseases, Department of Internal Medicine, Gangnam Severance Hospital, Yonsei University College of Medicine, Seoul, Korea, Republic of (South), 2Department of Pathology, Gangnam Severance Hospital, Yonsei University College of Medicine, Seoul, Korea, Republic of (South), 3Department of Pathology, Severance Hospital, Yonsei University College of Medicine, Seoul, Korea, Republic of (South)

Session: 145. Diagnostics: Viral
Friday, October 6, 2017: 12:30 PM

Background. Human cytomegalovirus (HCMV), which exist as asymptomatic latent status, can cause the tissue invasive disease through reactivation in various immunocompromised conditions. Hsp-microRNA has a specific function of post-transcriptional suppression through binding with 3’ untranslated region (UTR) of mRNA.

Methods. We had collected the formalin-fixed, paraffin-embedded tissues (N = 77) were selected among FFPE with either infection nor inflammation as well as negative HCMV IHC test. We performed TaqMan® MicroRNA real-time RT-PCR to measure the expression levels of hsp-miR-200b-3p and -200c-3p in HCMV-infected tissues. The standard curves consisting of mirVana™ miRNA mimics corresponding to each of two miRNAs, ranging from 10^0 to 10^15 copies/µL and HCMV NIBSC 09/162 strain, ranging from 5 x 10^4 to 5 x 10^7 IU/mL.

Results. The levels of hsp-miR-200b-3p and -200c-3p were strongly correlated with r =0.844 (P < 0.001). The expressions levels of hsp-miR-200b-3p in HCMV-infected FFPE (log, 3.50 ± 0.13 copies/µL) were significantly lower than normal tissues (log, 5.24 ± 0.12 copies/µL of input RNA, P = 0.001). Also, HCMV-infected FFPE showed lower levels of hsp-miR-200c-3p compared with normal tissues (log, 5.28 ± 0.18 vs. 7.81 ± 0.11 copies/µL of input RNA, P = 0.025). The levels of miR-200b-3p and -200c-3p had the significant inverse correlation with HCMV VL (200b-3p, spearman r=-0.392, P = 0.001 and 200c-3p, spearman r=-0.355, P < 0.001).

Conclusions. The expression of hsp-miRNA-200b-3p and -200c-3p could play a pathophysiology role of development of HCMV tissue-invasive disease.

Disclosures. All authors: No reported disclosures.