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Session: *Virology and Viral Infections (Non-HIV) I*

Date: Friday, April 4, 2014

Time: 12:45–14:15

Room: Ballroom

**Molecular epidemiology of hepatitis B virus among pregnant women in southwestern Nigeria**T.O.C. Faleye<sup>1</sup>, M.O. Adewumi<sup>2</sup>, I. Ifeora<sup>2</sup>, S.A. Bakarey<sup>2</sup>, C. Omoruyi<sup>3</sup>, A. Akere<sup>3</sup>, J.A. Adeniji<sup>2</sup><sup>1</sup> *EKITI STATE UNIVERSITY, Ado-Ekiti, Nigeria*<sup>2</sup> *University of Ibadan, Ibadan, Nigeria*<sup>3</sup> *University College Hospital, Ibadan, Nigeria*

**Background:** Perinatal transmission of Hepatitis B virus (HBV) serves as the major vehicle through which a population of chronically infected people who serve as infectious HBV reservoirs is maintained in communities. Hence, the importance of identifying HBV infected pregnant women in a bid to reduce perinatal HBV transmission

**Methods & Materials:** Two hundred and seventy-two pregnant women (age range: 17–43 years; median age: 31 years) attending antenatal clinics in Ibadan metropolis, Southwestern Nigeria were screened for HBsAg, HBeAg, HBeAb and HBe IgM using ELISA technique. All samples previously positive for HBsAg, HBeAg or HBe IgM were subjected to HBV DNA detection by amplification of the S-gene. Subsequently, the amplicon was sequenced and isolates were genotyped and subtyped based on amino acid residues at positions 122, 127, 134 and 160 of the S-gene.

**Results:** Seventeen (6.25%) of the pregnant women screened had evidence of recent HBV infection (HbsAg positive = 15; HBe IgM positive = 2). The 2 women with detectable HBe IgM had no HBsAg. Seven out of the 17 women had detectable HBV DNA. Further analysis shows that 5 of the isolates were genotype E subtype ayw4. The remaining 2 isolates could not be typed because one had F134V substitution and the other R122Q substitution which led to the loss of immunodominant HBsAg subtype determinants. Furthermore, the latter isolate also had C124Y, A128T, G130K, M133T, C138Y, G145K, C147Y, C149Y, A157T AND A159K substitutions which are characteristic of vaccine escape mutants.

**Conclusion:** This study confirms high endemicity of HBV, the risk of perinatal transmission and the circulation of genotype E subtype ayw4 in Nigeria. It further demonstrates the need to include HBe IgM in HBV screening protocols for pregnant women. In addition, the findings of this study show the presence and possible circulation of vaccine escape mutants in the population.

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**The role of non-invasive ventilation for patients with pandemic H1N1 2009 influenza admitted at ICU in Albania**A. Ndreu<sup>1</sup>, A. Simaku<sup>2</sup>, N. Como<sup>3</sup>, E. Meta<sup>4</sup>, D. Kraja<sup>5</sup><sup>1</sup> *University Hospital Center Mother Theresa, Tirana, Albania*<sup>2</sup> *Institute of Public Health, Tirana, Albania*<sup>3</sup> *Faculty of Medicine, Tirana, AL, Albania*<sup>4</sup> *University Hospital Mother Theresa, Tirane, Albania*<sup>5</sup> *Faculty of Medicine, Tirane, Albania*

**Background:** The 2009 A(H1N1) epidemics expanded rapidly around the world by the current ease of cross-continent spread of infectious diseases.

**Methods & Materials:** This is an observational prospective study of Albanian patients with 2009 influenza A(H1N1) admitted at ICU of the Infectious Disease Department in University Hospital Centre of Tirana during the period November 2009 – March 2010. Demographic data, symptoms, co-morbid conditions, and clinical outcomes were collected using a case report form. Days of stay at ICU admission, radiologic, laboratory findings and outcome at discharge were recorded for each patient.

**Results:** Critical illness occurred in 31 patients admitted to an ICU with confirmed pandemic 2009 influenza A(H1N1). The median age of patients was 35 years (±, and 54% of them were female. Five patients (16%) required endotracheal intubation, in 15 (48%) patients O<sub>2</sub>-therapy was given via nasal sound and mask, and 11 (35%) of patients received O<sub>2</sub>-therapy with noninvasive ventilation (NIV). All patients were treated with oseltamivir. Four patients did not survive during the course in ICU.

**Conclusion:** Critical illness from 2009 influenza A(H1N1) in ICU predominantly affects young adults. The NIV could have a beneficial effect in 2009 influenza A(H1N1) infection-related hypoxemic respiratory failure and was associated with severe hypoxemia, pneumonia, requirement for prolonged mechanical ventilation, and the frequent use of antiviral therapy.

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