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Surveillance and impact of occult hepatitis B virus, SEN virus and TT virus among hemodialysis patients with chronic hepatitis C virus infection in the Eastern Province of EgyptFatma A Amer¹, Monkez M Yousif¹, Ergenekon Garagoz² and Khan F M Ayaz³¹Zagazig University, Egypt²GATA Haydarpaşa Training Hospital, Turkey³Dhaka Medical College, Bangladesh

Statement of the Problem: Egypt ranks first with regards to prevalence of hepatitis C virus infection. Many patients have concomitant diseases like kidney disorders which necessitate hemodialysis, a procedure posing risk of transmitting other hepatitis viral infections. Occult hepatitis B infection (OBI) is blood borne and torque teno virus (TTV) and SEN virus (mainly D and H genotypes) are tentatively linked to non A-E hepatitis. The purpose of this study is the surveillance of OBI, SEN virus and TTV in chronic HCV (CHC) infected patients on maintenance hemodialysis in Sharqia Governorate, Egypt and to identify their impacts.

Methodology: 325 patients were enrolled. They were divided into two groups. Group 1 (case patients: 130 HCV RNA positive) and Group 2 (controls: 195 HCV RNA negative patients). All patients' data were recorded. Blood samples were collected before hemodialysis. Sera were tested for antibodies to hepatitis B core (HBc) and surface antigens (HBs) using ELISA. HBV, SEN virus-D and SEN virus-H and TTV DNAs were detected by polymerase chain reaction. The serum activities of alanine and aspartate aminotransferase were measured. Results were statistically analyzed.

Findings: Positive anti-HBc antibodies and HBV DNA were identified in 73.1% and 50.8% of group 1 vs. 36.4% and 22.6% of group 2 patients respectively (statistically significant). Significant elevation of aminotransferases was identified among group 1 than group 2 patients. SEN virus was identified in 15 (11.5) of group 1; 6 SEN-D and 9 SEN-H vs. 16 (8.2%) of group 2 patients; all were SEN-D. TTV was identified in 38 (29%) of group 1 vs. 53 (27%) of group 2 patients. The existence of neither SEN nor TTV had significant implications.

Conclusions: Due to high occurrence of OBI in our locality, diagnosis is recommended before hemodialysis for CHC patients. No importance of SEN virus and TT viruses is identified.

Recent Publications:

1. Omar M, Saad El Din S, Fam N, Diab M, Shemis M, Raafat M, Seyam M, Hssan H, Badawy A, Akl M and Saber M (2008) SEN virus infection in Egyptian patients with chronic hepatitis C and patients undergoing hemodialysis. *Medscape Journal of Medicine* 10(12):290.
2. Mandour M, Nemr N, Shehata A, Kishk R, Badran D and Hawass N (2015) Occult HBV infection status among chronic hepatitis C and hemodialysis patients in Northeastern Egypt: regional and national overview. *Revista da Sociedade Brasileira de Medicina Tropical* 48(3):258-64.
3. Angélica Yukari Takemoto A Y, Okubo P, Saito P K, Yamakawa R H, Watanabe M A E, Junior W V, Borelli S D and Bedendo J (2015) Torque teno virus among dialysis and renal-transplant patients. *Brazilian Journal of Microbiology* 46(1):307-311.
4. Elzorkany K and Zahran A (2017) Hepatitis C virus status in hemodialysis patients in Menoufia Government, Egypt, five years apart: do we have any improvement? *Saudi Journal of Kidney Diseases and Transplantation* 28(5):1126-32.
5. Makvandi M (2016) Update on occult hepatitis B virus infection. *World Journal of Gastroenterology* 22(39):8720-34.

Biography

Fatma A Amer was Head of Medical Microbiology and Immunology, Zagazig Faculty of Medicine, Egypt and was the President of the Arab Alliance for the prudent use of antimicrobials. Currently she is an Emeritus Professor in the same university, President of Hepatitis Working Group/International Society of Chemotherapy and Infection and, is a Board Member of the International Society for Infectious Diseases. She supervised and evaluated many MSc and PhD thesis and is a Reviewer of manuscripts submitted for journals, conferences and international awards. She published numerous articles. She was the first to introduce automated microbiology service in her university. She participated in the establishment of the Molecular Biology Unit and introduced an MSc degree in infection control at her faculty. She developed two volumes of infection control books, the first of their kind in Egypt. She participated in conferences all over the world as Organizer, Chairperson and Speaker

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