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Evaluation of Existence of Antithyroid Antibodies, Anti-Thyroid Peroxidase and Anti-Thyroglobulin in Patients with Hepatitis C Viral Infections

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Abstract : Chronic hepatitis or Hepatitis C viral (HCV) infection has been identified as one of the factors that could elicit autoimmune disease resulting in the development of auto-antibodies. Furthermore, HCV is implicated in contravening of forbearance to antigens, therefore, inciting auto-reactivity. In this regard, several near and past studies noted the prevalence of thyroid dysfunction and production of anti-thyroid antibodies (ATAb) such as anti-thyroid peroxidase (AntiTPO) and anti-thyroglobulin (AntiTG) in patients with HCV. Likewise, one of the etiologies of augmentation of thyroid disease is basically interferon therapy for HCV infections, for which a number of autoimmune diseases have been noted including Grave's disease, Hishimoto thyroiditis. A prospectively case-control study was therefore carried out at department of clinical biochemistry lab services and chemical pathology in collaboration with department of clinical microbiology, at Liaquat National Hospital and Medical College, Karachi Pakistan for the period January 2015 to December 2017. Two control groups were inducted for comparison purpose, control group 1 = without HCV infection and with thyroid disorders (n = 20), control group 2 = with HCV infection and without thyroid disorders (n = 20), whereas HCV infected were n = 40 where more than half were noted to be positive for either of HCV IgG and Ag. In HCV group, patients with existing sub-clinical hypothyroidism and clinical hyperthyroidism were less than 5%. Analysis showed the presence of AntiTG in 12 HCV patients (30%), AntiTPO in 15 (37.5%) and both AntiTG and antiTPO in 10 patients (25%). Only 3 patients were found with the history of anti-thyroid auto-antibodies (7.5%) and one with parents and relatives with auto-immune disorders (2.5%). Patients that remained untreated were 12 (30%), under treatment 18 (45%) and with complete-course of treatment 10 (25%). As per review of the literature, meta-analysis of evident data and cross-sectional studies of selective cohorts (as studied in presented research), thyroid connection is designated as one of the most recurrent endocrine ailment associated with chronic HCV infection. Moreover, it also represents an extrahepatic disease in the continuum of HCV syndrome. In conclusion, HCV patients were more likely to encompass thyroid disorders especially related to development of either of ATAb or both antiTG and AntiTPO.

Keywords : Hepatitis C viral (HCV) infection, anti-thyroid antibodies, anti-thyroid peroxidase antibodies, anti-thyroglobulin antibodies
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