HCV 3 in Pakistan: Does it offer More Hope for Cure and Control

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In 1989, a nucleic acid clone responsible for major cases of non A non B hepatitis was successfully isolated and named hepatitis C virus (HCV)[1]. It comprises a heterogenous of RNA viruses, showing approximately 70% homology overall. The classification of HCV genotypes is based on nucleotide sequence similarity, with the major groupings of sequence variants designated as HCV types and the more closely related groups within each type termed subtypes. The types are numbered and subtypes are identified by lower case letters assigned in order of discovery[2]. Uptil now 6 major types and 80 subtypes of HCV have been identified[3]. The genotype of an isolate can be determined by analysis of the genomic sequences (genotype) or by detection of genotype specific antibodies (serotyping). HCV genotypes reflect current infection, while serotypes may demonstrate exposure of the disease, current as well as past infections. HCV genotyping, serotyping may have different clinical applications. It can help in determining the efficacy of screening assays, epidemiology of HCV infection like type 3 appears to be detected more often in relation to intravenous drug users, development of vaccine, severity as well as the progression rate of the liver disease and efficacy of interferon or other antiviral treatment[4]. Pakistan seems to have high prevalence of hepatitis C virus type 3. Earlier Shat et al conducted a study at Aga Khan University Hospital, using genotyping methods, reported HCV type 3 strains among 87% (39/45) HCV reactive patients[5]. Later Zuberi and Arif, at Pakistan Medical Research Council, using serotyping methods, reported 79.5% (17l/275) prevalence of HCV type 3 strains among HCV related chronic hepatitis patients[6]. Nuzhat et al, at Liaquat National Hospital, Karachi, using serotyping methods also reported 64% (198/255) prevalence of HCV type 3 strain among HCV positive patients[7].

Evidence has now accumulated that from a large number of studies demonstrating that HCV genotype is correlated with response to IFN- alpha therapy. HCV type 3 seems to respond more favourably to antiviral therapy[8]. HCV type 3 seems to be high in South East Asia like India, Bangladesh, Thailand and Singapore[3]. In Western Europe and USA, HCV type 1,2 and 3 are more prevalent, but HCV type 3 have been found more frequent among drug users[9]. In Pakistan unsafe injection practices have been attributed as a major cause of spread of HCV infection in the country[10]. It seems there can be a linkage between unsafe injection practices and HCV type 3 strain. Having high prevalence of HCV type 3 strain, Pakistan has a good hope for cure and control of the disease. Promotion of safe injections practices, early diagnosis and clinical management of HCV positive patients can bear more fruit in Pakistan.

References

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