Alcoholic Liver Disease: Correlation with Type, Amount and Duration of Alcohol Consumption

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Alcohol abuse is considered as one of the most important causes of liver cirrhosis.¹ ² However, the relationship between cumulative alcohol intake and risk of alcoholic liver disease (ALD) is not clear. Only about 1/3 of alcohol consumers develop ALD. In retrospective studies, between the two a close relationship has been observed.³⁴ However in recent prospective studies, results are not clear.⁷⁸

Thus it obvious that in addition to alcohol, other factors like genetic, environmental, dietary and some other factors determine the individual’s susceptibility to the development of ALD. Accumulating evidence suggests that inflammatory responses may be involved in it. These responses have been observed often to the endotoxins derived from Gram-negative bacteria consequent to intestinal wall leakage. A correlation between plasma endotoxin levels and experimental alcoholic liver pathology has been observed.⁹ A polymorphic C/T form at position -159 in the promoter region of the human CD14 gene has been recently detected. The T variants of -159 polymorphism promote CD14 gene transcription and cause higher expression of CD14 on monocytes which seem to lead to enhanced inflammatory response.¹⁰

There is also a discordance between officially reported increase in alcohol consumption and changing death rate due to it. The obvious reason for this is the volume of illicit production whose frequent contaminants are aliphatic alcohols like methanol, 1-propanolol, 1-butanol, 2-butanol, isobutanol, iso-amyl alcohol and heavy metals especially lead depending on the nature of raw materials used and production techniques.¹¹¹²

Though alcohol consumption in India has existed since many through centuries, quantity, quality and pattern of consumption has undergone substantial change especially in recent years. However, the alcohol related data both regarding quantity, production and illness are lacking because as few scientific studies are available.¹³¹⁴

In this issue Nityanand et al¹⁵ have reported in a hospital study involving 201 patients of ALD, and correlation between alcohol intake and type of alcohol and severity of ALD. Though ALD severity did show correlation with prognostic markers and complications like hepatic encephalopathy, no correlation was observed between the amount and type of alcohol consumed unlike in previous study by Narwane et al from Mumbai¹⁴ where correlation was observed between incidence ALD and country liquor use. Regarding incidence of ALD, information from our country is scanty as hardly any information is available regarding contaminants in alcohol especially in illicit alcohol and genetic factors involved in this multiethnic country.¹⁶ Studies preferably prospective involving large numbers, showing serial effects in populations of different ethnicity in country along with quality and quantity consumed and their correlation with ALD needs to be determined.

References


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