

Study on Association of Hypothyroidism in Patients with Nonalcoholic Fatty Liver Disease

Golam Mustafa¹, Ponkaj Kumar Naha¹, Shahinul Alam¹, Mahabubul Alam¹, Rashed Mustafa², Nooruddin Ahmad¹

¹Department of Hepatology, Bangabandhu Sheikh Mujib Medical University Dhaka, Bangladesh

²No 2 Department of Anatomy, Khwaja Yunus Ali Medical College Enayetpur, Sirajganj, Bangladesh

Abstract

Background: Nonalcoholic fatty liver disease (NAFLD) is more common in subjects with obesity and diabetes mellitus (DM). Hypothyroidism is a risk factor for development of NAFLD. The study was done to assess the association of hypothyroidism with NAFLD and severity of NAFLD.

Methods: The study was carried out on 50 NAFLD patients. Among them 25 patients had no hypothyroidism and 25 patients had hypothyroidism. Histological diagnosis of NAFLD (non-NASH & NASH), based on NAFLD activity score (NAS) was done. Stages of fibrosis was evaluated by separate fibrosis score. Association of TSH with non-NASH, NASH and stages of fibrosis score were analyzed.

Results: Mean NAS, lobular inflammation and hepatocellular ballooning were significantly increased in high TSH group ($p < 0.05$). Majority 15 (60.0%) patients were non NASH in normal TSH group and majority 18 (72.0%) patients were NASH in high TSH group. The difference was statistically significant ($p = 0.022$) between the two groups. Positive correlation was found in between TSH level and NAS. Mean difference was statistically significant. Negative correlation between TSH level and stages of fibrosis was found which was not statistically significant.

Conclusions: There is significant positive association between NAFLD activity score and level of TSH and negative association between hepatic fibrosis score and serum TSH level.

Key words: hypothyroidism, non alcoholic fatty liver disease.