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Topic:

Screening of Asymptomatic Diabetic patients for Non-Alcohol Fatty Liver disease using APRI Score.

All Authors:

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Abstract:

Objective No-Alcohol fatty liver disease is considered as a global epidemic and has a wide spectrum of presentation from steatosis to hepatocellular carcinoma¹. It is mainly secondary to metabolic syndrome with obesity and diabetes being key risk factors. Various non-invasive assessments have been considered for screening of diabetic patients to detect early fibrosis^{2,3}. However, according to NICE guidelines, screening of asymptomatic patients is currently not being recommended⁴. Statistical methods We screened diabetic patients presenting to acute medical unit of University Hospital North Midlands using AST to platelet ratio Index (APRI) calculator over span of 1 month i.e. November 2017. Total of 75 patients were randomly selected but seven (9%) had known liver disease at admission (N=5 ALD and N=2 NASH) and were excluded from subsequent analysis. The remaining 68 patients had a median age of 75 years (IQR: 70 – 86), and 53% were female. Further demographics of the cohort are reported in Table 1. Rates of elevated APRI were estimated from the cohort, along with 95% confidence intervals (95% CIs). Associations between a range of patient factors and rates of APRI>1 were then assessed. Continuous variables were reported as medians and interquartile ranges (IQRs), and compared between groups with Mann-Whitney tests. Ordinal variables were also assessed using Mann-Whitney tests, whilst Fisher's exact tests were used for nominal variables. All analyses were performed using IBM SPSS 22 (IBM Corp. Armonk, NY), with $p<0.05$ deemed to be indicative of statistical significance throughout. Results APRI score The median APRI score for the cohort as a whole was 0.59 (IQR: 0.28-1.06). A total of 29 patients had an APRI score >0.7 , making up 43% (95% CI: 31-55%) of the cohort. Increasing this threshold to an APRI score >1 identified 22 patients with raised APRI, giving a rate of 32% (95% CI: 22-45%). Predictors of raised APRI Comparisons were then made across a range of factors, to identify any that were predictive of APRI>1 (Table 2). The only factor found to be significant in this analysis was the type of diabetes ($p=0.035$). Type 2 diabetics made up the majority of the cohort, and 29% (18/63) of these had APRI>1. However, within the five patients with type 2 diabetes, four (80%) were found to have APRI>1. Conclusion Although small number of patients was a limitation in our study, we concluded that significant percentage of asymptomatic type II diabetic patients had high APRI Score. This strengthens the case of diabetic patients using APRI score to detect early fibrosis and tailor management accordingly. References 1. Loomba R1, Sanyal AJ. The global NAFLD epidemic.. Nat Rev Gastroenterol Hepatol. 2013 Nov;10(11):686-90. doi: 10.1038/nrgastro.2013.171. Epub 2013 Sep 17 2. Sobhonslidsuk A1, Pulsombat A, Kaewdoun P, Petraksa S. Non-alcoholic fatty liver disease (NAFLD) and significant hepatic fibrosis defined by non-invasive assessment in patients with type 2 diabetes. Asian Pac J Cancer Prev. 2015;16(5):1789-94. 3. Kwok R et al. Screening diabetic patients for non-alcoholic fatty liver disease with controlled attenuation parameter and liver stiffness measurements: a prospective cohort study. Gut. 2016 Aug;65(8):1359-68. doi: 10.1136/gutjnl-2015-309265. Epub 2015 Apr 14. 4. Jessica G. Non-alcoholic fatty liver disease (NAFLD): summary of NICE guidance. BMJ 2016;354:i4428