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Association of lipid profile with Thyroid function test in Thyroid disorder patients

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Background: HypoThyroidism is the most common cause of secondary dyslipidemia. It is therefore necessary to assess Thyroid function test before starting hypolipidemic drugs. The hypoThyroidism is more prone to have cardiovascular and associated problems. These risk factors are cumbersome to control if not detected earlier and manifested later with severe clinical constellations. Our study assesses the frequency and spectrum of dyslipidemia in various types of Thyroidal illness in the population residing in south western part of Nepal.

Methods: This is a cross sectional study carried out in suspected Thyroid disorder patients (n=276) and categorized as euThyroidism (n=55), subclinical hypoThyroidism (n=89), primary hypoThyroidism (n=122) and primary hyperThyroidism (n=10) patients and to see the association with lipid profiles in the Department of Biochemistry, Universal College of Medical Sciences Teaching Hospital, Bhairahawa Nepal. Serum fT3/fT4 and TSH estimations were carried out by competitive ELISA method and sandwich double antibody ELISA method respectively using commercially supplied reagents (Human, Germany). The criteria for dyslipidemia were obtained by National Cholesterol Education Expert Panel/Adult Treatment Protocol III (NCEP/ATPIII).

Results: Out of all cases, dyslipidemia was mostly associated with primary hypoThyroidism (55.07%) followed by subclinical hypoThyroidism (38.04%) than euThyroid (5.79%) and primary hyperThyroidism (3.62%) respectively. Out of all cases, the spectrum of dyslipidemia was mostly observed for decreased HDL (18.5%) followed by increased TG (10.1%). Moreover, it significantly differ in relation to HDL (p=0.009) and TG/HDL (p=0.02) where as non significant as compared to other lipid profile in different groups.

Conclusions: Our study revealed the close association of Thyroidal illness with dyslipidemia with increased TG, low HDL and increased TG/HDL. The increased TG/HDL and/or non-HDL/HDL could be better indicator than single lipid abnormality, which needs to be ascertained prospectively in large population.

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Liraglutide effect in reducing HbA1c and weight in Arab population with Type2 Diabetes, a prospective observational trial

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Data from LEAD trials showed that liraglutide was associated with significant reduction in weight HbA1c and blood pressure values. Unfortunately there are no enough data on Arab population. We aimed to assess the changes in blood pressure, lipids profile, and liver function test upon starting liraglutide and after 6 months of therapy in Arab patients with type2 diabetes as primary objective. 365 agreed to sign an informed consent. 29% of the studied population was males (n=106) compared to 71% females (n=259). There was no significant change in systolic blood pressure, however average diastolic blood pressure improved significantly (74.4±10 to 72±9 mmHg at 6 months P<0.001). Significantly lower average diastolic BP was seen in Insulin users at both start and the end of the study (73+4 vs. 76+4 P=0.05 and (71+ 5 vs. 73+4.6) p=0.02, respectively). Mean AST and ALT was within normal range at baseline and despite that there was a highly significant reduction between baseline and end of study 29+18 to 25.7+13 and 25.1+20 to 22.2+16 for ALT and AST, respectively. Both of them showed highly significant P value (0.0000). There was a significant reduction in weight and HbA1c at 6 months. However the change in weight was more significant in insulin users compared to those who did not use insulin (96+3 to 93+5 vs. 93+5 to 98+3.5, P-value at the end of the study was 0.02). The HbA1c reduction was significant irrespective of weight loss. Liraglutide showed remarkable improvement in weight, HbA1c, liver enzymes and diastolic blood pressure. Patients who used insulin at base line had better results in weight and lipids reduction.

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