Assessment of lipid profile in hypertensive and non-hypertensive males: A case control study

Ravithima Senarathne, Nirodha Dissanayake, Usha Hettiaratchi and Lohini Athiththan
Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background
Atherogenic dyslipidemia and hypertension are two main features of metabolic syndrome (MS); an alarming threat worldwide. Individuals with MS have a threefold greater risk for cardiovascular morbidity and about twofold greater risk for cardiovascular mortality when compared to people without MS. As hypertension is easily measurable, determining the association with other risk lipid parameters would be an added benefit to the individuals and health sector.

Objective
Objective of this study was to compare the lipid profile; serum total cholesterol (TC), triglycerides (TG), high density lipoprotein (HDL) cholesterol, low density lipoprotein (LDL) cholesterol and TC/HDL ratio in selected age-sex matched hypertensive and non-hypertensive males.

Method
- Study design : Case control study
- Study population : Males (35-55 years) and not on any lipid lowering drugs.
- Sample size: 50 subjects; 25 hypertensive and 25 non-hypertensive
- Case group: 25 males diagnosed as hypertensive and on anti-hypertensive drugs
- Control group: 25 non-hypertensive males (B.P. < 120/80 mmHg)
- Study setting: A Clinic attached to University of Sri Jayewardenepura, Sri Lanka.

Results

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Hypertensive group</th>
<th>Non-hypertensive group</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC</td>
<td>195.3±38.4 mg/dL</td>
<td>176.0±26.1 mg/dL</td>
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<tr>
<td>TG</td>
<td>131.5±14.5 mg/dL</td>
<td>122.3±56.8 mg/dL</td>
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<tr>
<td>HDL</td>
<td>41.4±8.0 mg/dL</td>
<td>38.4±8.8 mg/dL</td>
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<tr>
<td>LDL</td>
<td>127.5±42.7 mg/dL</td>
<td>113.0±23.8 mg/dL</td>
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<tr>
<td>TC/HDL ratio</td>
<td>5.0±1.8</td>
<td>4.7±1.1</td>
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</tbody>
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Although other lipid parameters were not significantly higher in hypertensive subjects compared to non-hypertensive subjects, in hypertensive group 60% or more subjects had a higher level of LDL and TC/HDL ratio as mentioned in the table below. Further 60% or more non-hypertensive subjects had higher LDL levels and lower HDL levels.

Conclusion
Elevated percentage of lipid profile in both hypertensive and non-hypertensive groups indicate that there should be active screening for lipid profile in the community. Lower HDL levels and higher LDL levels confirm that subjects should pay more attention on physical activities and food habits.

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