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# Unveiling the players of obesity

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## Abstract

Background: Obesity is a silent killer and a forerunner of many complications if persists long. Various studies with animal model have identified the role of leptin, the hormone of adipose tissue; in obesity and its associated complications like diabetes and atherosclerosis inlater stages. The exact mechanism to know how leptin influences insulin action in body and thereby leading to diabetes or post diabetic atherosclerosis is still not completely evaluated. Hypercholesterolemia was only found common to all these three states. The present study, therefore, evaluated the role of obesity on the expression of LDLR receptor, INSULIN receptor and LEPTIN receptor.

Method: Receptor expression was done by immunohistochemistry/ western blot. The serum level of lipids were measured by enzyme based kit method. The serum level of insulin and leptin and its soluble receptor were measured by elisa based kit.

Results: The blot for insulin expression shows no chamge with body weight; the blot for leptin receptor shows decrease expression with weight gain and blot for LDLR shows decrease expression with weight gain. The serum levels of insulin and leptin are increased with weight gain but soluble receptor for leptin did not change significantly. Even the obese group showed decrease tyrosine phosphorylation of insulin receptor.

Conclusion: This study has given some possible reasons of the inter-association of hyperleptinemia, hypercholesterolemia and hyperinsulinemia by showing possibilities of inactivation of insulin and LDLR receptor with leptin resistance.

## Biography

Puja Beriwal has completed MBBS in 2006 & MD in biochemistry from AIIMS, New Delhi in 2011. Presently he is working as senior resident in the department of biochemistry. This is his first work in this area and all his knowledge and research activities are on this metabolic syndrome which is becoming an epidemic slowly and steadily. We will leave no stone unturned to stop this epidemic.