



CODEN [USA]: IAJ PBB

ISSN: 2349-7750

INDO AMERICAN JOURNAL OF PHARMACEUTICAL SCIENCES

<http://doi.org/10.5281/zenodo.3249080>
Available online at: <http://www.iajps.com>

Research Article

ANALYSIS OF ROLE OF PLASMA OBESTATIN LEVELS IN OBESITY WITH ASSOCIATION OF DAILY LIFE STYLE IN PAKISTAN

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Article Received: April 2019

Accepted: May 2019

Published: June 2019

Abstract:

Introduction: Obestatin is a recently discovered peptide produced in the stomach, which was originally described to suppress food intake and decrease body weight in experimental animals. Obesity is an obsessive condition, which results from an irregularity between caloric admission and consumption, and is described by excessive muscle to fat ratio. **Aims of the study:** The main aim of the present study is to analyze the role of plasma obestatin levels in obesity which is associated with daily life style. **Methodology of the study:** This study was conducted according to the rules and regulations of ethical committee of the hospital. The data was collected from 50 obese patients which was also suffering from heart and cholesterol diseases. These patients who come at District Head Quarter Teaching Hospital, Sargodha were selected for this study during Jan 2018 to May 2018. Demographic factors were also asked to the student. Body mass index (BMI) and waist circumference (WC) were done for patients and controls as anthropometrical tests, while fasting serum glucose (FSG) measured using spectrophotometric technique. Each serum sample was analyzed for obestatin hormone and fasting insulin using enzyme linked immune sorbent assay (ELISA). **Results:** Mean fasting obestatin levels was 0.450 ± 0.468 and 0.959 ± 0.889 separately in hypertensive and normotensive fat and the distinction of mean fasting obestatin levels between the two gatherings was factually huge with p esteem 0.000. Mean fasting blood cholesterol level was 206.42 ± 44.420 and 202.39 ± 48.344 respectively in normal and obese and the difference was not statistically significant with p value 0.644. **Conclusion:** Obestatin plays very important role in obesity and it is directly correlated with blood glucose level. Furthermore, there was a clear relationship between obestatin and both BP and HOMA-IR, suggesting that obestatin might play a role in BP regulation.

Key words: Obestatin, obesity, diseases, patients.

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Please cite this article in press Abida Perveen et al., Analysis Of Role Of Plasma Obestatin Levels In Obesity With Association Of Daily Life Style In Pakistan., Indo Am. J. P. Sci, 2019; 06(06).

INTRODUCTION:

Obestatin is a recently discovered peptide produced in the stomach, which was originally described to suppress food intake and decrease body weight in experimental animals. Obesity is an obsessive condition, which results from an irregularity between caloric admission and consumption, and is described by excessive muscle to fat ratio amassing, that has extreme effect on life quality and life expectancy because of the weight of related comorbidities¹. Ongoing information from the World Health Organization recommend that 11% of the total populace (the greater part a billion people) is stout, while 35% is overweighted². Besides, the prevalence of obesity is persistently expanding around the world, so uncovering the patho system and finding powerful medications have turned out to be earnest and basic. Amid the previous decades much research has featured that synapse systems controlling hunger and sustaining conduct, subjective capacity, stress and reward conduct are unequivocally and correspondingly connected³. Nourishment admission is regularly controlled by a homeostatic drive to reestablish vitality balance, while in specific conditions epicurean or reward-based direction supports the utilization of exceptionally attractive, vitality thick foods⁴.

Obestatin is a 23-corrosive metabolic peptide, got from the preproghrelin quality which was disconnected first from the rodent stomach in 2005. Be that as it may, obestatin is additionally communicated in other GI organs (pancreas, liver), fat tissue, skeletal muscle, lungs, thyroid and mammary organs and testicles, recommending a multifunctional job of it, which can act both halfway and peripherally⁵. It was initially depicted as an immediate adversary of ghrelin with anorexigenic impact. Both focal and fringe infusion diminished nourishment allow in a period and portion subordinate way, body weight gain, and intestinal motility by means of the G-protein coupled receptor 39 (GPR39) an individual from the GHSR family which was quickly invalidated as a receptor for obestatin by a few studies⁶. To note, late information propose that obestatin may act through the GPR39 receptor in an autocrine/paracrine way incidentally, in particular as mitogenic factor in myoblasts and GPR39 could intervene the metabolic impacts of obestatin in the fat tissue and GI system⁷.

Moreover, obestatin has been appeared to be decidedly related with ghrelin. This recommends levels of both obestatin and ghrelin might be changed in obesity and insulin obstruction. Obestatin has been accounted for to diminish vascular cell attachment particle articulation in endothelial cells when animated with tumor rot factor- α , and to increment oxidized low-thickness lipoprotein authoritative to macrophages. In this way, it might likewise have a potential capacity in the control of blood pressure⁸⁻⁹.

Aims of the study

The main aim of the present study is to analyze the role of plasma obestatin levels in obesity which is associated with daily life style.

METHODOLOGY OF THE STUDY:

This study was conducted according to the rules and regulations of ethical committee of the hospital. The data was collected from 50 obese patients which was also suffering from heart and cholesterol diseases. These patients who come at District Head Quarter Teaching Hospital, Sargodha were selected for this study during Jan 2018 to May 2018. Demographic factors were also asked to the student. Body mass index (BMI) and waist circumference (WC) were done for patients and controls as anthropometrical tests, while fasting serum glucose (FSG) measured using spectrophotometric technique. Each serum sample was analyzed for obestatin hormone and fasting insulin using enzyme linked immune sorbent assay (ELISA).

Statistical analysis

SPSS analysis test was used in making a comparison of the two-tailed P value of the two groups with a significance set at $p < 0.05$. Results were considered to be of statistical significance if the two-tailed p-value was less than 0.05.

RESULTS:

Mean fasting obestatin levels was 0.450 ± 0.468 and 0.959 ± 0.889 separately in hypertensive and normotensive fat and the distinction of mean fasting obestatin levels between the two gatherings was factually huge with p esteem 0.000.

Table 01: Comparison of mean fasting obestatin levels between hypertensive and normotensive obese

Group	n	Mean	Std. Deviation	P Value
Hypertensive obese	57	0.450	0.468	0.000
Normotensive obese	57	0.959	0.889	

Table 02: Comparison of mean fasting blood cholesterol levels between normal and obese patients

Group	n	Mean	Std. Deviation	P Value
Normal	57	206.42	44.420	0.644
Obese patients	57	202.39	48.344	

Mean fasting blood cholesterol level was 206.42 ± 44.420 and 202.39 ± 48.344 respectively in normal and obese and the difference was not statistically significant with p value 0.644.

DISCUSSION:

Hormones and neuropeptides control and integrate the neuro circuits of metabolism, thirst, thermoregulation, and sleep overlapping in the hypothalamus. As needs be, other than its fringe impacts, focal activities of obestatin were additionally identified¹⁰. To note first, when controlled ICV this peptide repressed thirst in encouraged and fasted male rodents, and pretreatment with obestatin likewise killed the dipsogenic impact of angiotensin II. Besides, it was likewise recommended that the anorexigenic impact of this peptide is a result of the thirst restraint, the purported drying out anorexia¹¹.

The neurogenesis in the grown-up hippocampus includes the expansion, movement and separation of forebear cells. These procedures are debilitated by various conditions, for example, hypoxia, addictive medications, continued introduction to worry among others, while certain hormones and development factors advance the expansion and survival of the hippocampal neurons¹².

CONCLUSION:

Obestatin plays very important role in obesity and it is directly correlated with blood glucose level. Furthermore, there was a clear relationship between obestatin and both BP and HOMA-IR, suggesting that obestatin might play a role in BP regulation.

REFERENCES:

1. Rhéaume, C, Leblanc, MÈ, Poirier, P. Adiposity assessment: explaining the association between obesity, hypertension and stroke. *Expert Rev Cardiovasc Ther* 2011; 9: 1557–1564.
2. Berthold, HK, Giannakidou, E, Krone, W. Influence of ghrelin gene polymorphisms on hypertension and atherosclerotic disease. *Hypertens Res* 2010; 33: 155–160.
3. Gurriarán-Rodríguez, U, Al-Massadi, O, Roca-Rivada, A. Obestatin as a regulator of adipocyte metabolism and adipogenesis. *J Cell Mol Med* 2011; 15: 1927–1940.
4. Schulteis G, Yackey M, Risbrough V, Koob GF. Anxiogenic-like effects of spontaneous and naloxone-precipitated opiate withdrawal in the

elevated plus-maze. *Pharmacol Biochem Behav.* 1998;60(3):727-31.

5. Li T, Hou Y, Cao W, Yan CX, Chen T, Li SB. Naloxone-precipitated withdrawal enhances ERK phosphorylation in prefrontal association cortex and accumbens nucleus of morphine-dependent mice. *Neurosci Lett.* 2010;468(3):348-52.
6. Vicennati V, Genghini S, and Iasio DR. Circulating obestatin levels and the ghrelin/obestatin ratio in obese women. *European Journal of Endocrinology* 2007; 157: 295–301.
7. Taskin MI, Bulbul E, Adali E, Hismiogullari AA, and Inceboz U. Circulating levels of obestatin and co-peptin in obese and non obese women with polycystic ovary syndrome. *Eur J Obstet Gynecol Reprod Biol.* 2015 Jun;189:19-23.
8. Yildiz G, Yucel A, Nayan V et al. Evaluation of effects of diet on serum obestatin levels in overweight patients with polycystic ovary syndrome. *Journal of obesity and metabolic research.* 2014;1(4):230-237.
9. Dixit, VD, Yang, H, Cooper-Jenkins, A. Reduction of T cell-derived ghrelin enhances proinflammatory cytokine expression: implications for age-associated increases in inflammation. *Blood* 2009; 113: 5202–5205
10. Kellokoski, E, Kunnari, A, Jokela, M. Ghrelin and obestatin modulate early atherogenic processes on cells: enhancement of monocyte adhesion and oxidized low-density lipoprotein binding. *Metabolism* 2009; 58: 1572–1580.
11. Matthews, DR, Hosker, JP, Rudenski, AS. Homeostasis model assessment: insulin resistance and beta-cell function from fasting plasma glucose and insulin concentrations in man. *Diabetologia* 1985; 28: 412–419.