



CODEN [USA]: IAJPBB

ISSN : 2349-7750

**INDO AMERICAN JOURNAL OF  
PHARMACEUTICAL SCIENCES**

SJIF Impact Factor: 7.187

<http://doi.org/10.5281/zenodo.4076785>Available online at: <http://www.iajps.com>

Research Article

**OBSERVATION OF METABOLISM ACCORDING TO THE  
GROWTH HORMONE CONTROL IN MAYO HOSPITAL  
LAHORE**<sup>1</sup>Yumna Maryam, <sup>2</sup>Dr Ibraheem Ahmad, <sup>3</sup>Dr Gulbdin<sup>1</sup>DHQ Mandi Bahauddin<sup>2</sup>Sial Hospital Qadir Abas Road Ali Pur Chattha<sup>3</sup>Ayub Medical Complex, Abbot Abad**Article Received:** August 2020**Accepted:** September 2020**Published:** October 2020**Abstract:**

*Nonalcoholic fatty liver is a liver disease that affects almost all the world. According to one study nonalcoholic fatty liver is a disease that affects almost one third of adult population. Low levels of growth hormone in general are associate with nonalcoholic fatty liver disease. It is observed that the relationship between the GH and the igf is observed in the mayo hospital Lahore steaosis is unclear. Our purpose of this study is to find the mechanisms between it is observed that the stopness in the igf to steaosis and over it is observed that the stopness in this the igf and the GH subjects. It is observed that the liver GHR ablation leads to increases in lipid up take. It is observed that when the insulin recovered in body by the effect of IGF 1. IGF 1 also improves that the how the disease called the stenosis works. It is also observed that IGF 1 is sufficient to help to reduce the data and also help the steaosis to work in the proper direction*

**Keywords:** Nonalcoholic fatty, liver disease, IGF 1, Mayo Hospital Lahore, steaosis, hepatic inflammation

**Corresponding author:****Yumna Maryam,**

DHQ Mandi Bahauddin

QR code



Please cite this article in press Yumna Maryam et al, *Observation Of Metabolism According To The Growth Hormone Control In Mayo Hospital Lahore.*, Indo Am. J. P. Sci, 2020; 07(10).

**INTRODUCTION:**

Nonalcoholic fatty liver that is caused by low level of hormone it is a liver disease that effects the almost one third of population [1]. It is also observed that low levels of growth hormone is directly associated with the nonalcoholic fatty liver disease [2]. It is also observed in mayo hospital Lahore that the patients have GH receptor and loss of function finally makes nonalcoholic fatty liver disease [3]. The patient has GH deficient we provide them GH treatment [4]. After GH treatment or after achieving adult height leads to the production of the liver cancer that leads the patient to death. It is also observed that the minimize in circulating GH IGF 1 directly associates with nonalcoholic fatty liver [5]. The patients have obese disease manifest GH stopness they that observed that minimization in GH that are low as on GHD subjects [7]. The GH therapy has many advantages like it reduces fat in young individuals and helps in abdominal obesity [6]. It is also a universal truth that patients of GH levels treat with the method of ghr. In this directly in bound with reduced and it minimizes the transducer and acticator of transcription [9]. The deletion of GHR might result in decrease in fats and lipid. This study is under taken in Mayo hospital Lahore Pakistan [10]. The result in minimization to GH level means that it nearly leads to nonalcoholic fatty liver disease. That is a most spreading disease in all our the world [11]. The clinic is currently tried to unrevealed that the efficiency of the gh cureness how it helps to change the body it reduces the hepatic content in patients with nonalcoholic fatty liver [12].

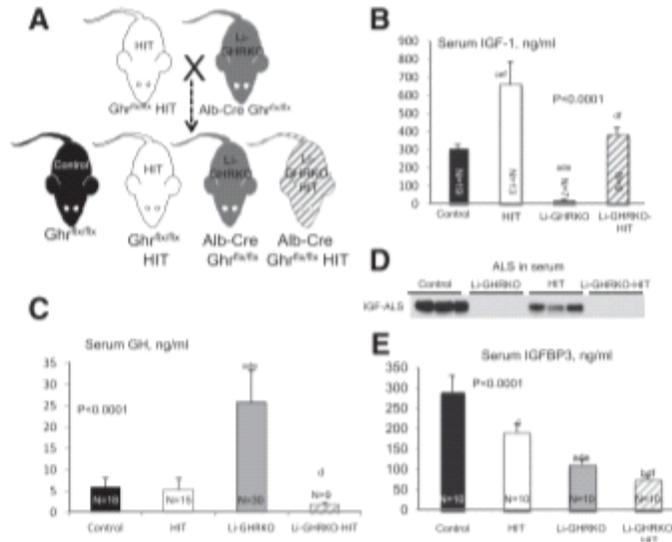
**METHODOLOGY:**

We performed this study in mayo hospital Lahore in this study includes HIT mice and floxed ghr mice. We achieved the gene inactivation of ghr mice by using cre/lox-P system. The mice that is included in this study at mayo hospital Lahore included C57BL/6J genetic background. All the mice included in this study is separated by according to

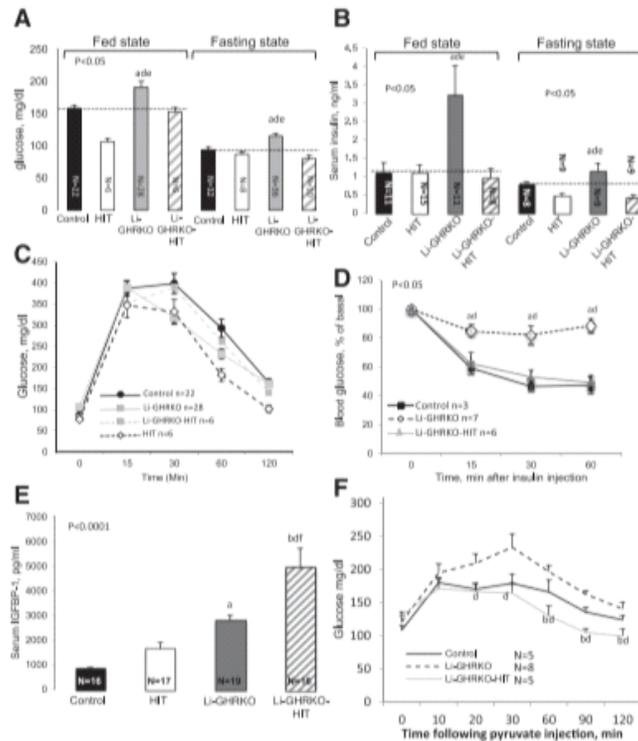
their sex. It is also in observance that are mice are kept in place of five animals per cage and have low light and food and water. We used serum plasma in this study to find and investigate. We collected plasma in mayo hospital Lahore by using orbital bleeding in time between 9 to 10 am. We also collected free fatty acids calorimetric assay. We also have to find the tissue FA composition. We find the FA composition by using the gas chromatography method. We also have to find the liver glycogen content we measured it by using colorimetric assay. All the mice that are in under observation are given injection of 0.6 U/kg insulin and 2mg/g glucose and 2g/kg sodium pyruvate. We also have to measure the blood glucose level. For this purpose we used glucometer. We also measured the insulin of mice of different stage of fasting like 8 h fasting and 15 h fasting. We also have to find the thiobarbituric acid reactive for this purpose we uses a commercial kit for this finding. It is important to observe the proteins for this purpose we uses a ox select protein carbonyl spectrophotometric assay. We also have to find RNA for this purpose we uses TRIzol. We to obtain the proteins so the protein is extracted by using chaps.

**RESULTS:**

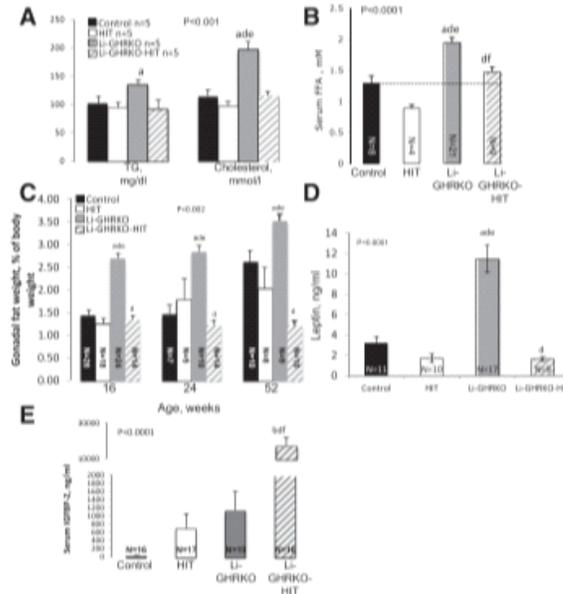
We also uses the cross methods to maintain the different chemicals in mice. So for the restorance of we uses cross method with the. It is observed that in Li-ghrko mice there is 95 percent deduction in serum we observed. While in a hit mice the expression was increased HIT levels by 2 folds. During crossing of these two types of mice its normalizes serum. It is also observed that the serum GH levels increased five folds. It is also found the protein level in serum in both these types of mice it is shown in following figure. It is shown in result that Li-ghrko shows the increased in blood glucose and in insulin levels. It is also observed in result that Li-ghrko hit have fivefold increase in serum. It plays a important role in overall insulin sensitivity. Our results different from previous studies as shown in figure.



In the above figure it is shown that the HIT mice cross with Li-ghrko mice. It is also shown that how it effects in results by using above figure. Now there is another figure are following which describes the fed state and fasting state. Yes the effect on schedule of fasting and fed state as shown in following figure. It shows the how glucose and insulin effects in following figure.



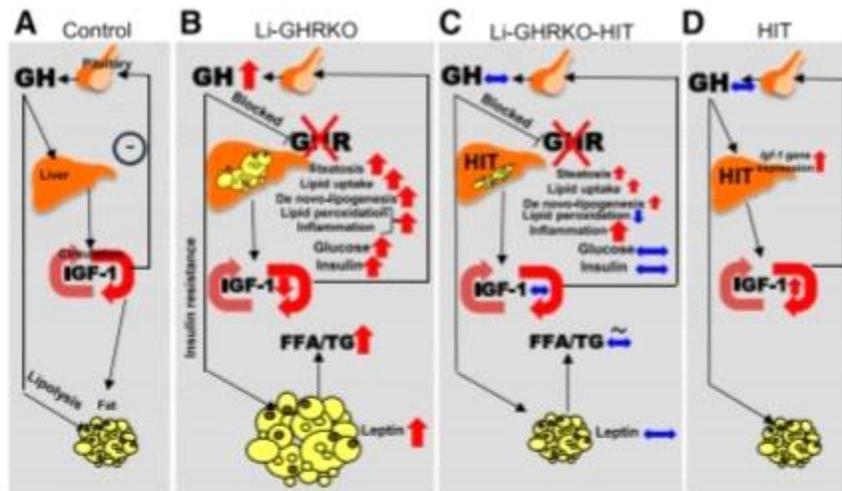
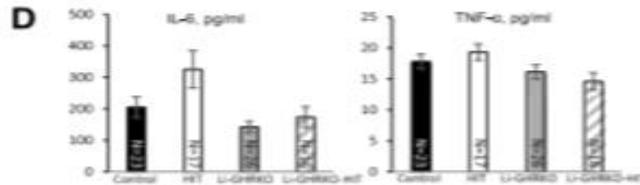
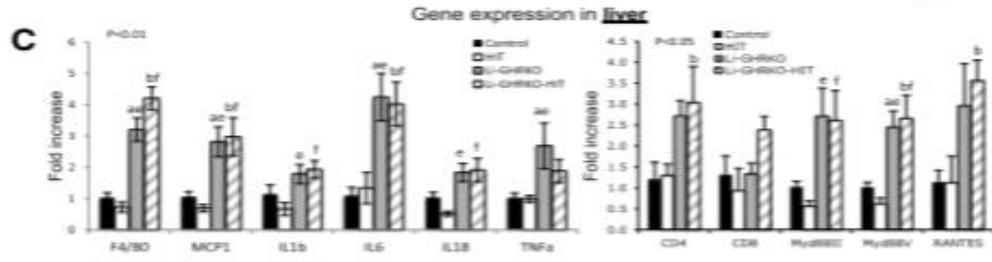
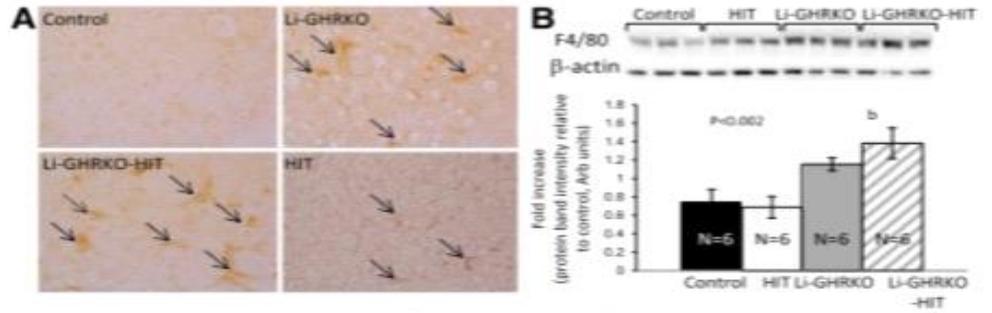
In order to find the whole body insulin sensitivity we performed a find the insulin sensitivity. It is observed that the increases in the new individual as in match with to the old one. Following figure will show that the transgene.



## DISCUSSION

It is observed above that how it affects these things [13]. It is observed that how it affects on serum and liver [14]. It is observed that what response of it after 18 days and how it affects on liver or serum it is observed by using real time technology it is also observed that how it effects on rats during the observation and during the staying period as shown in following figure. It indicates that the igf 1 how it restores it. It is also found that how its stresses the liver and serum li-ghrko level and how it works [15].

As it shown in following figure. In this study there is rats involved the two types the li ghrko and hit type. In this study we use a method called the cross methods in which female become pregnant. After the cross method we wait for some months after some months the new individual in this study moves a new story. We gave name to him called the li ghrko it. It is observed that how the lipid effects hit and how the metabolism and how it effects these things. It is observed that it is high in the li ghrko and minimizes in new individual li ghrko hit and vice versa.



**CONCLUSION:**

It is a very important study that is we done in Mayo hospital Lahore. It reveals secret from many effects how it effects on body how it effects liver and serum and how its work on it. We performed this study on rats the rats called the li gharko and the hit. In this study we uses the cross method. In crosses the li gharko and it. The result of this cross we called it the li gharko it. In the following figure it is shows that

how lipids affects on it. It is observed that how it effects the how serum becomes low and high in new individual called it the li gharko it is also observed that we also observed that the high level of maximization in sod and we also compared the both li gharko and new individual and the li gharko hit. This experiment has been performed by using the cross methods in this we uses the two types of rats name called the li gharko and hit type. In this

experiment we also uses the cross methods. We crosses these two types of rats called li gharko and hit type. After some months new individual in called the li gahrko hit. We gave them a new name called li gharko hit which is the result of the crosses methods.in this study we shows the hepatic gh and it overall in touch with lipid. We used serum plasma in this study to find and investigate. We collected plasma in mayo hospital Lahore by using orbital bleeding in time between 9 to 10 am. We also collected free fatty acids calorimetric assay. We also have to find the tissue FA composition. We find the FA composition by using the gas chromatography method.

#### REFERENCES:

- Liu, Z., Cordoba-Chacon, J., Kineman, R. D., Cronstein, B. N., Muzumdar, R., Gong, Z., ... & Yakar, S. (2016). Growth hormone control of hepatic lipid metabolism. *Diabetes*, 65(12), 3598-3609.
- Fan, Y., Menon, R. K., Cohen, P., Hwang, D., Clemens, T., DiGirolamo, D. J., ... & Sperling, M. A. (2009). Liver-specific deletion of the growth hormone receptor reveals essential role of growth hormone signaling in hepatic lipid metabolism. *Journal of Biological Chemistry*, 284(30), 19937-19944.
- O'Connor, P. K., Reich, B., & Sheridan, M. A. (1993). Growth hormone stimulates hepatic lipid mobilization in rainbow trout, *Oncorhynchus mykiss*. *Journal of Comparative Physiology B*, 163(5), 427-431.
- Xu, X., So, J. S., Park, J. G., & Lee, A. H. (2013, November). Transcriptional control of hepatic lipid metabolism by SREBP and ChREBP. In *Seminars in liver disease* (Vol. 33, No. 4, p. 301). NIH Public Access.
- Badman, M. K., Pissios, P., Kennedy, A. R., Koukos, G., Flier, J. S., & Maratos-Flier, E. (2007). Hepatic fibroblast growth factor 21 is regulated by PPAR $\alpha$  and is a key mediator of hepatic lipid metabolism in ketotic states. *Cell metabolism*, 5(6), 426-437.
- Grum, D. E., Drackley, J. K., Younker, R. S., LaCount, D. W., & Veenhuizen, J. J. (1996). Nutrition during the dry period and hepatic lipid metabolism of periparturient dairy cows. *Journal of dairy science*, 79(10), 1850-1864.
- Sinha, R. A., Singh, B. K., & Yen, P. M. (2018). Direct effects of thyroid hormones on hepatic lipid metabolism. *Nature Reviews Endocrinology*, 14(5), 259.
- Barclay, J. L., Nelson, C. N., Ishikawa, M., Murray, L. A., Kerr, L. M., McPhee, T. R., ... & Waters, M. J. (2011). GH-dependent STAT5 signaling plays an important role in hepatic lipid metabolism. *Endocrinology*, 152(1), 181-192.
- Vijayakumar, A., Novosyadlyy, R., Wu, Y., Yakar, S., & LeRoith, D. (2010). Biological effects of growth hormone on carbohydrate and lipid metabolism. *Growth Hormone & IGF Research*, 20(1), 1-7.
- Davidson, M. B. (1987). Effect of growth hormone on carbohydrate and lipid metabolism. *Endocrine reviews*, 8(2), 115-131.
- Sheridan, M. A. (1986). Effects of thyroxin, cortisol, growth hormone, and prolactin on lipid metabolism of coho salmon, *Oncorhynchus kisutch*, during smoltification. *General and comparative endocrinology*, 64(2), 220-238.
- Cordeiro, A., Souza, L. L., Einicker-Lamas, M., & Pazos-Moura, C. C. (2013). Non-classic thyroid hormone signalling involved in hepatic lipid metabolism. *Journal of Endocrinology*, 216(3), R47-R57.
- Kaltenecker, D., Themanns, M., Mueller, K. M., Spirk, K., Suske, T., Merkel, O., ... & Müller, M. (2019). Hepatic growth hormone-JAK2-STAT5 signalling: Metabolic function, non-alcoholic fatty liver disease and hepatocellular carcinoma progression. *Cytokine*, 124, 154569.
- Gerich, J. E., Lorenzi, M., Bier, D. M., Tsalikian, E., Schneider, V., Karam, J. H., & Forsham, P. H. (1976). Effects of physiologic levels of glucagon and growth hormone on human carbohydrate and lipid metabolism. Studies involving administration of exogenous hormone during suppression of endogenous hormone secretion with somatostatin. *The Journal of clinical investigation*, 57(4), 875-884.
- Ljungberg, A., Lindén, D., Améen, C., Bergström, G., & Oscarsson, J. (2007). Importance of PPAR $\alpha$  for the effects of growth hormone on hepatic lipid and lipoprotein metabolism. *Growth hormone & IGF research*, 17(2), 154-164.