

## HYPERGLYCEMIA IN DIABETIC PATIENTS WHO WERE ADMINISTERED ALPHA BLOCKERS FOR BHP - A NEW REPORT

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**Abstract: Background and objectives:** There are a few reports in literature about Alpha blockers induced hyperglycemia in some Type II Diabetic patients treated for BHP in the world. Urologists differ in their opinion in our country when diabetic patients report about elevated levels of fasting blood glucose who were undergoing treatment for BHP. A closer examination and interactions among multidisciplinary scientists including associated students had such observation in some patients but systematic study could not be conducted. **Method :** We present a case study of 56 years old diabetic patient treated with alpha blockers for BHP who developed hyperglycemia (HbA1c >8). The patient when put on various Alpha blockers namely Tamsulosin, Alfuzosin, Deutasteride alone or in combinations over period of time, complained about elevated level of fasting blood glucose level while reversal or reduced levels on withdrawal of medicines to both consulting Physician and Urologist, assisted by students. The perusal of record of patient, time to time observations and interactions of first and second author with concerned urologist and physician during period between 2015 and 2018 gave new information about Alpha blocker linked Hyperglycemia and reversal on withdrawal. **Results:** When patient was put on Urimax (0.4 mg) or Tamsulosin and Deutasteride, blood glucose level was recorded while continuing same dose of Insulin and Metformin, FBG level was recorded high (>300 mg/dl). After withdrawal of the medicine (Alpha blockers) during October 2016, alpha blocker dose was reduced to half during 2017 by Narayana Hospital Urologist, reduced level of fasting blood glucose (between 200-300 mg/dl) was observed. The same diabetic patient when withdrawn Alpha blockers by AIIMS Urologist for 3 months recorded with reduced level of FBG and subsequently FBG levels were back to normal range. **Interpretation and Conclusion :** It can be concluded that the diabetic patient in mid 50 age group on Insulin and Metformin when treated with alpha blockers for BHP developed hyperglycemia (HbA1c >8) and withdrawal of Alpha blockers lead to reversal or lowered FBG levels. The continuation of treatment with Alpha blockers for BHP required increased dose of Insulin supplemented with Glimepiride, Metformin and Pioglitazone for maintaining optimum FBG levels.

**Keywords:** Hyperglycemia, BHP, Alpha blocker, Diabetes

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### Introduction:

Diabetes has emerged as a global problem. India has now become diabetic capital of the world with 1 out of 5 persons diabetic. The middle age diabetic patients especially those in 50's often report urination problems. Majority of them are diagnosed with BHP. There are reports about uncontrolled sugar level in such diabetic patients on medication for BHP. There are a few reports in literature about Alpha blockers induced hyperglycemia in some Type II Diabetic patients treated for BHP in the world. Urologists differ in their opinion in our country

when some diabetic patients under treatment for BHP, report about elevated levels of fasting blood glucose. We report, a new information after a closer examination and interactions among multidisciplinary scientists including Dr Rajan Gupta, Dr Amit Suri (Urologists) Dr CM Sharma (Psychiatrist) and associated students.

### Material and Methods:

We present a case study of mid 50 age group diabetic patient treated with alpha blockers for BHP developed hyperglycemia (HbA1c >8). The patient was put on various Alpha blockers namely Tamsulosin, Alfuzosin, Deutasteride alone or in combinations over period of time by Urologists of ASCOMS, Jammu; Medanta Hospital, Gurgaon; Narayana Hospital, Katra, Jammu; and AIIMS, New

Delhi. He complained about elevated level of fasting blood glucose level when put on Alpha blockers and reversal or reduced levels on withdrawal of medicines to both consulting Physician and Urologist assisted by their students. The perusal of record of patient on medication and laboratory tests at periodical intervals, time to time clinical observations and interactions of 1<sup>st</sup> and 2<sup>nd</sup> authors under guidance of 3<sup>rd</sup> author with concerned urologist and physician during period between 2015 and 2018 gave a new information about Alpha blocker linked Hyperglycemia in diabetic patient and reversal on withdrawal of Alpha blockers.

**Result:**

The perusal of record of investigations, physiological and psychological observations on interactions was done with patient for period between 2015 and 2018. The patient was diagnosed with BHP Grade I during 2015-16. When patient was put on Urimax (0.4 mg) or Tamsulosin and Dutasteride, blood glucose level was recorded while continuing same dose of Insulin and Metformin, fasting blood glucose level was recorded high (>300 mg/dl). After withdrawal of the medicine (Alpha blockers) during October 2016, alpha blocker dose was reduced to half during 2017 by Narayana Hospital Urologist, reduced level of fasting blood glucose (between 200-300 mg/dl) was observed. The same diabetic patient when withdrawn Alpha blockers by AIIMS Urologist for 3 months recorded with reduced level of fasting blood glucose and subsequently FBG levels were back to normal range. Besides, requirement of higher dose of Insulin (30 IU), Glimepiride (1 mg), Pioglitazone (10mg) twice a day for lowering sugar level when hyperglycemic.

**Discussion:**

A few incidences of hyperglycemia has been reported by other authors with treatment of BHP with Tamsulosin of Diabetic Patients. Furthermore, our findings are corroborated with studies based on physiological aspects in rats wherein use of Tamsulosin caused decreased level of insulin.

**Conclusion:**

It can be concluded that Alpha blockers caused hyperglycemia in diabetic patients with BHP in

present study and same could be due to the lowering of the blood insulin levels. It could necessitate use of higher doses of insulin and/ or other drugs if diabetic patients with BHP are continued treatment with Alpha blockers.

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