THE PREVALENCE OF IMPAIRED GLUCOSE TOLERANCE IN PATIENT WITH CENTRAL OBESITY OR IMPAIRED FASTING PLASMA GLUCOSE IN SRIRACHA, CHONBURI

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Abstract

Objective: To determine the prevalence of impaired glucose tolerance (IGT) in the group of central obesity and/or impaired fasting plasma glucose (IFG) sample.

Methods: Analyzing data is from the database of 64 samples who had visited Queen Sawang Vattana memorial hospital during January, 2012 until June, 2014. Using descriptive statistics to determine the prevalence of IGT in the group of central obesity and IFG

Results: Form the 64 samples enrolled, 45 females. The mean age is 52.2 years. We found 22 IGT and 13 DM samples and 30 of them also have IFG, only 4 samples remain the normal blood glucose sample. In IGT and DM samples, there were 23 samples that have both central obesity and IFG

Conclusion: The prevalence of IGT in sample with IFG and central obesity is 53.1%.

Introduction

The hyperglycemia is classified into 2 categories, the first one is called the impaired fasting glucose or IFG with has a definition of the level of plasma glucose between100 to 125 mg/dl after fasting state at least 8 hours before the test, and the second one is the impaired glucose tolerance or IGT with has the definition of the level of plasma between 140 to 200 mg/dl 2 hours after the meal.(1)

There are different ways to identify the IFG and IGT. We may find the IFG if we have an individual plasma glucose test after 8 hours of fasting and this method is the most popular way to screen the diabetes mellitus in the present but we also have individual plasma glucose test 2 hours after the digestion of 75 gram dextrose solution, finding the state of IGT.

The IFG and IGT affect the body in the different ways. The DECODE study has shown only the IGT not the IFG has a relationship with an increasing of the incidence of myocardial infarction and stroke. Furthermore they also found that only the IGT has the effect to all cause mortality in this study(2)

But since these days the first fasting method seem to be done in most private and public health service, thus we cannot identify the IGT instead of the more harmful they are. So, This study try to identify the prevalence rate of the IGT in at risk Thai population with central obesity or already be stated as the IFG who visited the Queen Savang Vadhana memorial hospital during January, 2012 till June, 2014

Objective

      To find out the prevalence of IGT in Thai population who have central obesity or already be stated as the IFG, visiting Queen Savang Vadhana memorial hospital during January, 2012 till June, 2014

Methodology

      Secondary data from Queen Savang Vadhana memorial hospital database during January, 2012 till June, 2014. Male or Female whose age are above 30 years old who already stated as the IFG or central obesity

Statistic analysis

      Descriptive statistic analysis was used for general data such as sex, age, waist circumference etc. and presented in the form of percentage, mean and standard deviation. We also analyze some degree of relationship among the factor we collected by using the chi square and man whitney u test for level of significant.

Result

      The mean age of 64 sample was 52.2 years old (SD 11.6). The sample consisted of 19 males (29..7%) and 45 females (70.3). There were 51 samples who have the central obesity (79.7%) and 46 samples with IFG (71.9%).

      Among 64 samples, we found the 30 cases with normal glucose tolerance test (NGT) (46.9%), 21 cases with IGT (32.8%) and 13 new cases of diabetes mellitus (20.3%). We also defined the IGT group and the DM group together and named as a abnormal glucose tolerance test (AGT) which will count for 34 cases of AGT.
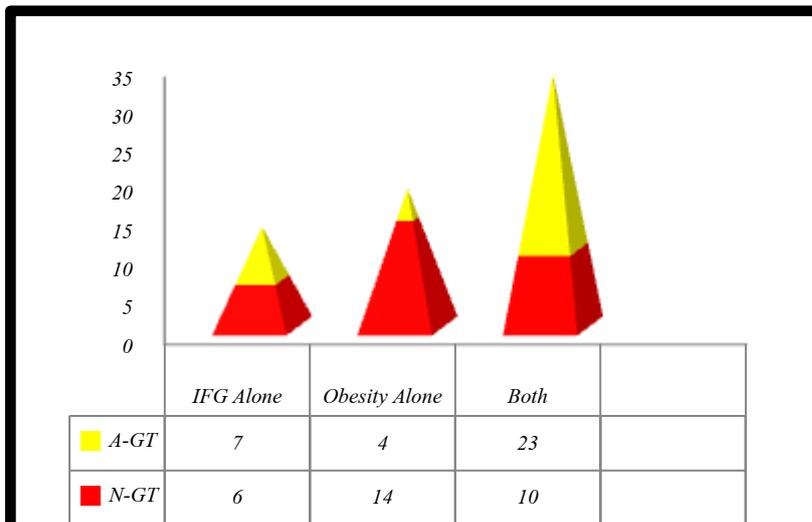

	IFG Alone	Obesity Alone	Both
A-GT	7	4	23
N-GT	6	14	10

Diagram I show the number of AGT and NGT categorized by the risk factor A-GT : Abnormal glucose tolerance, N-GT : Normal glucose tolerance

Discussion

This study aimed to study the prevalence of impaired glucose tolerance in those who had the excess waistline or the abnormal level of fasting plasma glucose. The study found the prevalence of IGT in 34 samples (53.1%). Meanwhile, there were 21 people out of 34 people who were found only the IGT accounted for 32.8 percent. As well as, there were 13 out of 34 who were within the scope of the diabetes diagnosis criterion according to the criterion of the American Diabetes Association accounted for 20.3 percent.

According to the study of Yang SH and Shi Z from China [3,4], they found the prevalence (excluding the population with diabetes) at only 16 percent. It might be because Yang study did not emphasize the risky population while this study was. In case of Kim KS study[5], his research in Korea revealed that the diabetes diagnosis via fasting plasma glucose could detect the diabetes patients at only 50 percent. Conversely, those people were checked via the glucose tolerance test, almost 50 percent was found diabetes with the abnormity of glucose tolerance which was consistent with this research.

Conclusion

In this study, we found 53.1% of AGT among Thai population who had central obesity or already be stated as the IFG, 21 cases of 64 were IGT (32.8%) and 13 cases were in the criteria of new case diabetes mellitus (20.3%)

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