

Prevalence of Type 2 Diabetes Mellitus in Patients Undergoing Elective Surgery in a Tertiary Care Hospital in Udaipur

Kapil Sharda¹

¹Associate Professor, Department of General Surgery, Geetanjali Medical College and Hospital, Udaipur, Rajasthan, India.

Received: October 2020

Accepted: October 2020

ABSTRACT

Background: Type 2 Diabetes Mellitus is a major concern in delaying the planned surgery as well as in elective surgeries. The major form of diabetes mellitus is Type 2 diabetes. It accounts for 90 percent of the diabetic population. Patients with diabetes mellitus (DM) are prone to adverse outcomes. It is observed that one-fifth of the patients undergoing surgery are diabetic. **Methods:** This study was conducted in the Department of Surgery, Geetanjali Medical College and Hospital, Udaipur. Only those patients undergoing Elective Surgery were selected to know the prevalence of Type 2 Diabetes Mellitus. Around 140 total numbers of cases were recruited on the basis of inclusion and exclusion criteria. Each case has Type 2 DM. **Results:** In our study, 140 total numbers of cases were included. Among the 140 cases, 58.57% were male & 41.42% were female. Incidence of Diabetic Mellitus in undiagnosed & diagnosed cases was found to be 60.71% & 39.28% respectively. **Conclusion:** This study revealed that there is a strong need for awareness about diabetes amongst the masses so that at the time of any elective surgical procedure, there will be no delay.

Keywords: Diabetes mellitus, undiagnosed cases, diagnosed cases, Elective Surgeries.

INTRODUCTION

Diabetes mellitus (DM) is a metabolic disorder. It results from a defect in insulin secretion or insulin action.^[1-4] It was estimated that worldwide, more than 200 million people had DM in 2010, and 300 million will subsequently have the disease by 2025.^[5-7] It has been reported that India had 32 million diabetic subjects in 2000 and by the year 2030, it will be 80 million.^[8] The incidence of diabetes is rising all over the world at an alarming rate.^[9] India is termed as the “Diabetes capital of the world”, due to the highest number of diabetic patients in the world.

The major form of diabetes mellitus is Type 2 diabetes. It accounts for 90 percent of the diabetic population. Patients with diabetes mellitus (DM) are prone to adverse outcomes.^[10,11] It is observed that one-fifth of the patients undergoing surgery are diabetic. However, several treatment strategies are employed to get rid of it globally. But in developing countries where resources are limited, needs to be reviewed. Over the past thirty years, the status of diabetes has changed from a mild disorder to one of the major causes of morbidity and mortality.^[8] It has been reported that there is a difference in the percentage of urban-rural prevalence in type 2 DM in all parts of the globe including India.

Hence, due to the alarming rate of diabetes, it was necessary to study the incidence of prevalence and percentage of undiagnosed type 2 diabetics admitted for elective surgery.

MATERIALS AND METHODS

Study Area: This prospective study was conducted in the Department of Surgery, Geetanjali Medical College and Hospital, Udaipur.

Study Population: Patients undergoing Elective Surgery having Type 2 Diabetes Mellitus was selected to know the prevalence of Type 2 Diabetes Mellitus. Around 140 total numbers of cases were recruited on the basis of inclusion and exclusion criteria.

Data Analysis: Data were analyzed by using Microsoft excel.

RESULTS

In our study, 140 total numbers of cases were included. Among the 140 cases, males (58.57%) were found to be more affected than females (41.42%). The majority of the cases belong to the 36-50 years age group followed by 51-65 years of age group and least were found in the 20-35 years age group. Incidence of Diabetic Mellitus in undiagnosed & diagnosed cases was found 60.71% & 39.28% respectively.

Name & Address of Corresponding Author

Dr. Kapil Sharda
Associate Professor,
Department of General Surgery,
Geetanjali Medical College and Hospital,
Udaipur, Rajasthan, India.
Email: kapsharda.ks@gmail.com

Table 1: Distribution of cases according to gender

Gender	No. of cases	Percentage
Male	82	58.57%
Female	58	41.42%
Total	140	100%

Table 2: Distribution of cases according to Age

Age Groups	No. of cases	Percentage
20-35	6	4.2%
36-50	52	37.14%
51-65	46	32.85%
>65	36	25.71%
Total	140	100%

Table 3: Distribution of cases according to the incidence of Diabetic Mellitus

Incidence of DM	No. of cases	Percentage
Undiagnosed	85	60.71%
Diagnosed	55	39.28%
Total	140	100%

DISCUSSION

In India, the incidence of undiagnosed type 2 diabetes mellitus is more than diagnosed type 2 diabetics. This is mainly because of the unawareness amongst the masses regarding Type 2 Diabetes Mellitus. Therefore, this prospective study examined the incidence of undiagnosed type 2 DM in patients admitted in surgical wards for different surgical procedures as the diabetics are more prone to adverse events than their non-diabetic counterparts.

It has been found that more percentage of undiagnosed than diagnosed DM patients is found when they come with complaints of some other ailment and are suddenly diagnosed as diabetic after clinical investigations.

In the present study, the total percentage of diabetic patients was estimated who were admitted in different surgical wards. The results of this study showed that there was no significant difference ($p>0.05$) in the mean age of the diagnosed and undiagnosed patients in different treatment groups. Furthermore, a significant difference ($p<0.001$) was found in the mean BMI of the male and female patient populations. "Asian Indian Phenotype" refers to certain unique clinical and biochemical abnormalities in the Indian population. It comprises increased insulin resistance and greater abdominal adiposity which makes Asian Indians more susceptible to diabetes and premature coronary artery disease.^[12,13] This study has found 60.71% of the patients as newly detected (undiagnosed) type 2 diabetics. Additionally, the associated disease in type 2 DM was also observed and compared among the groups.

CONCLUSION

This study concluded that there is a strong need for awareness about diabetes and early diagnosis of diabetes to reduce its various complications. Also, surgeons doing any elective Surgery should investigate the patients before undergoing the procedure.

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How to cite this article: Sharda K. Prevalence of Type 2 Diabetes Mellitus in Patients Undergoing Elective Surgery in a Tertiary Care Hospital in Udaipur. Ann. Int. Med. Den. Res. 2020; 6(6):SG32-SG33.

Source of Support: Nil, **Conflict of Interest:** None declared