

## Post Transplantation Diabetes Mellitus(PTDM)

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### Summary

Nowadays organ transplantation have been proved to be boon to patients with end stage organ failure but at the same time one should not forget its one of the most serious consequence i.e. PTDM. Therefore at these present times there is no doubt at all that PTDM continues to be the greatest risk that may develop soon after transplantation in organ transplant patients posing threat to these patients not only in terms of infections but ultimately decreasing their life expectancy. The incidence of PTDM in organ transplant patients depends on a variety of factors like age, BMI, individuals more susceptible to develop DM and so on, reports have given us an idea on incidence rates which are 4% to 25% in kidney transplant patients, 4% to 40% in heart transplant patients, 2.5% to 25% in liver transplant patients and 30% to 35% patients in lung transplant patients. Organ transplantation is now a days an important treatment option for diseases occurring from end stage organ failure including liver, kidney, lung, pancreas etc. The discovery and use of cyclosporine to maintain the immunocompromised state of patients after the organ transplantation so that the organ is not rejected by the recipient's immune system has been a breakthrough and is still contributing largely in decreasing the mortality rate significantly. Likewise more and more advancements and improvements are being done day by day for the betterment of the solid organ transplantation surgery outcomes. These new interventions have led to more patients opting and saying yes to organ transplantation surgeries.

Despite of the large milestones achieved in the area of solid organ transplantation there are still many hurdles which need to be taken care of, these include dyslipidaemia, elevated blood pressure (hypertension), increased risk of heart disease, post transplantation DM and at last mortality.

Among all the hurdles Diabetes Mellitus was the one which the scientists thought will reduce after replacing the use of corticosteroids with the new immunosuppression regimen but the results varied invariably.

On the contrary, it is particularly seen in kidney transplantation patients that obesity has contributed much to the development of Post transplantation diabetes mellitus. Therefore at these present times there is no doubt at all that PTDM continues to be the greatest risk that may develop soon after transplantation in organ transplant patients posing threat to these patients not only in terms of infections but ultimately decreasing their life expectancy. The incidence of PTDM in organ transplant patients depends on a variety of factors like age, BMI, individuals more susceptible to develop DM and so on.

Among all the developments PTDM was continuously being redefined and renamed from being New Onset Diabetes Mellitus after Transplantation to finally being Post Transplantation Diabetes Mellitus (PTDM). The purpose of writing this article is to review the articles available on Post transplantation diabetes mellitus and explore its Incidence, Pathophysiology, Risk Factors, Diagnosis, Management and Complications.

The prevalence of Post transplantation diabetes mellitus among the organ transplant patients depends on a variety of factors such as Body mass index, age, patients genetically more susceptible to diabetes mellitus. It has also been found surprisingly that many of the patients who were considered to be acquiring diabetes mellitus after the transplant surgery were actually the ones who were not screened properly for diabetes mellitus before the transplant surgery. This means that these patients were already having impaired glucose tolerance or were diabetic before the surgery. So, the reported cases of post transplantation diabetes mellitus are not accurate since we don't know how many patients were already having impaired glucose tolerance before the surgery. Further, the reported cases of PTDM also depends upon the type of immunosuppressive drug regime given to the patient, the length of follow ups done, the precautions taken by the patients post surgery and the type of organ transplantation done and few others which we still are yet to discover. Overall, the reported cases of PTDM have been found to be 4% to 25% in kidney transplant patients, 4% to 40% in heart transplant patients, 2.5% to 25% in liver transplant patients and 30% to 35% patients in lung transplant patients. So, the reported cases of post transplantation diabetes mellitus are not accurate since we don't know how many patients were already having impaired glucose tolerance before the surgery. Studies have been performed using the Oral Glucose Tolerance Test as the gold standard test to find out the number of patients having post transplantation diabetes mellitus with different organ transplantation. Development of PTDM is nowadays most common after various types of organ transplants which has ultimately led to increase in no. of deaths thereby knowing about its various risk factors and interventions to eliminate these risks are of prime importance along with this its early diagnosis and prompt treatment should definitely be taken care of. These new interventions have led to more patients opting and saying yes to organ transplantation surgeries. Despite of the large milestones achieved in the area of solid organ transplantation there are still many hurdles which need to be taken care of, these include dyslipidaemia, elevated blood pressure (hypertension), increased risk of heart disease, post transplantation DM and at last mortality. In all the management of PTDM also consist of the necessary lifestyle changes such as adapting to physical activities, diet regulations (consumption of more of fibrous and protein diet and reducing the intake of refined sugars like sucrose) and weight loss.