

## RECURRENT GESTATIONAL DIABETES MELLITUS

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### Introduction

Recurrent Gestational Diabetes Mellitus (R-GDM) is defined as Glucose Intolerance developing or recognised during pregnancy, remitting after delivery and recurring during subsequent pregnancy/pregnancies. Four such cases of R-GDM are reported to emphasise the recognition of R-GDM as a clinical entity.

### Case Reports

#### Case-I:

Mrs. N. 28, with a family history of Diabetes Mellitus, had a vesicular molar pregnancy that terminated during the third month of gestation in 1979. During the third trimester of next pregnancy in 1980, routine urine examination showed glucosuria and therefore an OGTT was carried out. The OGTT results were as follows :

	F	30	60	90	120 minutes
BS mg%	90	--	170	140	120
US	Nil	--	++	++	+

The OGTT was interpreted as renal glucosuria by the attending Obstetrician, though the elevated blood sugar values at 0 and 1 hour on the OGTT satisfy the criteria for the diagnosis of GDM after O'Sullivan and Mahan (1964) and NDDG (1979). Thus GDM was overlooked, and she delivered a male baby weighing 3.9 Kg. by caesarean section that was asphyxiated at birth and died of Respiratory Distress Syndrome.

In her third pregnancy OGTT done during the third trimester showed the following values:

	F	60	120	180 Minutes
BS mg%	80	280	260	180
US	Nil	Nil	++++	++++

The OGTT was unequivocally diagnostic of DM and she was treated with diet regulation and insulin to maintain her blood glucose less than 100 mg%. She delivered a full term healthy female baby following Caesarean Section. OGTT repeated 6 weeks after delivery was normal.

In late 1983, pregnancy supervened on lactational amenorrhoea, OGTT repeated revealed Glucose Intolerance.

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Thus this case illustrates that this patient had glucose intolerance during the second, third and fourth pregnancies with normal glucose tolerance in the inter-pregnant intervals, thus demonstrating Recurrent GDM in her.

*Case-2 :*

Mrs B, 32, who does not come from diabetic stock, delivered a 4 KG male, that died soon after birth. OGTT done on the 2nd post-natal day, in view of the large-sized baby was as follows :

	F	30	50	90	120 minutes
BS mg%	140	176	208	256	190
US	Trace	Trace	Trace	Trace	Trace

Thus GDM in this pregnancy went unrecognised. OGTT repeated 6 weeks after delivery was normal. During the second pregnancy in May 1981 she developed glucose intolerance again, the OGTT showing the following :

	F	30	60	90	120 minutes
BS mg%	104	142	175	192	162
US	Trace	Trace	Trace	Trace	Trace

She was treated with diet regulation and insulin and she delivered a normal child at full term. GTT repeated 6 weeks after delivery was normal. She continues to have normal glucose tolerance till today.

*Case-3 :*

Mrs. T, 28, was subjected to an OGTT during the 2nd trimester of her first pregnancy since glycosuria was detected on routine urine examination. The OGTT is reproduced below :

	F	30	60	90	120 minutes
BS mg%	108	180	168	158	150
US	Nil	+	++	+++	+++

The attending Obstetrician interpreted it as normal, though the blood sugar levels meet the criteria for the diagnosis of GDM. The child died soon after birth. GDM had gone unrecognised.

OGTT done during the first trimester of her second pregnancy was normal. The OGTT done during the second trimester revealed glucose intolerance :

OGTT	F	½	1	1½	2
BS mg %, 180 Hours	114	190	210	200	180 Hours
US	+	--	++	--	++

With tight glycaemic control, she delivered normally. Post-natal GTT was normal.

Case No. 4 :

Mrs. P., 23, had abnormal glucose tolerance during her first pregnancy, that went unrecognised :

	F	30	60	90	120 minutes
BS mg%	108	168	182	160	140

She delivered a big baby. Her OGTT during the 2nd trimester of second pregnancy was again abnormal.

GTT	F	30	60	90	120 minutes
BS mg%	120	218	239	212	121

She delivered a normal child. Post-natal OGTT was normal, thus emphasising Recurrent GDM in her.

### Discussion

1. NDDG<sup>1</sup> defines GDM as DM or IGT developing or recognised during pregnancy, requiring reclassification after delivery into Prev AGT/IGT/DM depending upon the results of OGTT done 6 weeks after delivery. This paper relates to four cases of GDM that reverted to normal glucose tolerance after delivery, all of whom deteriorated to Glucose intolerance during subsequent pregnancy(ies). While the later development of DM in woman with GDM is well recognised, that GDM frequently recurs in subsequent pregnancies is not well documented. Pedersen<sup>2</sup> described that most pregnant women with gestational and chemical diabetes have diabetes also in their next pregnancy. Pregnancy is a situation of maternal insulin stress and therefore it is not surprising for glucose intolerance to develop during pregnancy, remit following and recur during subsequent pregnancy(ies). This is very much similar to hyperglycaemia seen only during a stressful situation and remitting to euglycaemic levels once the stress is over.

2. The blood glucose levels during pregnancy are normally lower<sup>3,4,5,6,7</sup> than in the non-pregnant and consequently the diagnostic criteria for the diagnosis of GDM are lower than those for the diagnosis of DM in the non-pregnant state. This needs to be borne in mind while interpreting the OGTT during pregnancy, since failure to do so results in nonrecognition of GDM even when it exists as in the four cases reported here. Further, the recognition of hyperglycaemia as teratogenic and the concept of tight glycaemic control during pregnancy to prevent foetal morbidity and mortality is gaining ground, the need to recognise glucose intolerance during pregnancy becomes greater.

### References

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