

## Deliveries among diabetic females; a tertiary care experience

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**Abstract:** *Objectives:* To determine the cesarean section (CS) rate in a consecutive series of pregnant women with Diabetes Mellitus. *Material and Methods:* This retrospective patients' files review of deliveries happened to diabetic mothers was carried out from 1st January, 2005 to 31st December, 2006 in the department of Obstetrics and Gynecology of Alnoor Specialist Hospital, Makkah, Saudi Arabia. *Results:* Among all subjects (118), Saudi national women predominated 101(86%). Majority belonged to the age group of 36-40 years, i.e., 38(32%) and 52(44%) was diagnosed as gestational diabetes mellitus. However, 89(75%) of pregnancies were terminated through CS. *Conclusion:* Majority were delivered by CS.

**Key words:** Cesarean Section, Gestational Diabetes Mellitus, pregnant women

### Introduction

Women with undiagnosed or poorly managed gestational diabetes mellitus (GDM) are at increased risk of having a large for gestational age (LGA) infant that may be responsible for increased risk of obstetric intervention including cesarean section. While it is not constant that women with GDM will have a higher section rate, it has been suggested recently that knowledge by the obstetric care providers that a woman has GDM is likely to lead to a higher rate [1]. Pre-gestational type 2 diabetes is also an emerging problem especially since type 2 diabetes has become a global epidemic [2]. However, if higher section rates are found only in some hospitals, then knowledge about this local practice should not be endorsed as a general disincentive to test women for GDM.

The aim of this study was to determine the cesarean section rate in a consecutive pregnant series of women with DM and GDM.

### Material and Methods

This retrospective patients' files review of all deliveries happened to diabetic mothers was carried out from 1st January, 2005 to 31st December, 2006 in the department of Obstetrics and Gynecology of a 550 bedded tertiary care referral teaching hospital in Makkah, Saudi

Arabia, the Alnoor Specialist Hospital, which had an average annual delivery rate of 2500. The subjects were divided into age groups of years, i.e., <25, 26-30, 31-35, 36-40, >40; nationality, i.e., Saudis and Non-saudies; type of diabetes, i.e., DM and GDM. Mode of delivery was categorized as vaginal delivery, elective CS and emergency CS. Data was subjected to descriptive analysis and analysed on Microsoft excel version 2007 on personnel computer. Institutional review board of Alnoor Specialist Hospital granted permission to conduct this audit. We declare that we have no financial or personal relationship(s) which may have inappropriately influenced us in writing this paper.

### Results and Discussion

A total of 118 subjects fulfilled the inclusion criteria of the study. Saudi national women predominated 101(86%). Overall subjects' mean age with two standard deviation (SD) was 34.3±6.6 (SD) years, while that of Saudis subjects was 34.3±6.6 (SD) years and non-Saudis had 34.3±7 (SD) years. The majority belonged to the age group of 36-40 years, i.e., 38(32%) followed by 26-30 years. Regarding type of diabetes, 52(44%) was diagnosed as GDM. However, 89(75%) of pregnancies

were terminated through caesarian section, among them 49(55%) were elective CS. (Table 1)

Characteristics		n	%
Type of Diabetes	DM	66	56
	GDM	52	44
Nationality	Saudi	101	86
	Non Saudi	17	14
Age groups (years)	<25	10	9
	26-30	32	27
	31-35	17	14
	36-40	38	32
	>40	21	18
Mode of Delivery	Vaginal Delivery	29	25
	Caesarean Section	89	75

This study, which spanned a period of 2 years, showed a high incidence of CS among diabetic pregnant women. CS in women with GDM has been mentioned incidentally in many papers but specifically examined in only a few. It was found that the women who have had their GDM intensively treated, and with reduced rate of macrosomia, the CS rate was found slightly above than that found in a glucose tolerant population [3-4]. CS birth accounted for approximately 10% of all births in Saudi Arabia, reaching 20% in tertiary centers. Whereas, the CS rate in Great Britain is currently 21%. Repeat CS is therefore, a common phenomenon in our community, probably due to its cultural opposition to the limitation of CS, as this would limit the size of the family [5]. A study of Abha Maternity Hospital, showed that CS rate was 48% among 185 diabetic pregnant women, while we had 75% [6]. In a case-control study of 83 diabetic and non-diabetic pregnant patients who

delivered at King Faisal Military Hospital found five times higher CS in diabetic cases than in controls [7].

Another study in Saudi Arabia also found higher rate of CS among GDM as well as pre-GDM cases than the controls. On the other hand, they found similar incidence of maternal, fetal and neonatal complications in GDM as well as in pre-GDM patients and their offsprings. So they concluded that both groups of pregnancies and the offsprings should be monitored and managed identically [8]. It was also mentioned in an audit of Netherland, that over the last few decades many studies have shown that women with type 1 and type 2 DM have almost the same maternal, fetal and neonatal outcomes [9]. Naylor et al., found that the CS rates in glucose tolerant, untreated GDM and treated GDM women, were 22, 30, and 34%, respectively [10]. So as mentioned in the study of Moses about marked variations in CS rate, sometimes probably related to patterns of physician decision-making while on the other side it was also felt that recognition of GDM may lead to a lower threshold for surgical delivery that mitigated the potential benefits of treatment [1].

### Conclusion

We concluded that CS rate was high in diabetic pregnant women. However, proper screening and management of diabetes mellitus type 1 and 2, as well as GDM might prevent avoidable maternal and fetal morbidity as evidenced by the studies in our country.

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