

TIMING OF DELIVERY AND FETAL OUTCOMES IN PRE-EXISTING DIABETES AND GESTATIONAL DIABETES.



SD Karalasingam¹, Krishna Kumar Hari Krishnan², R Jeganathan³, SA Soelar¹

1. National Clinical Research Center Malaysia
2. Hospital Tuanku Jaafar Seremban Malaysia
3. Hospital Sultanah Aminah, Johor Bahru Malaysia

INTRODUCTION

The objective of this paper is to study if the timing of delivery in women with pre-existing Diabetes Mellitus (DM) and Gestational Diabetes (GDM) affects fetal outcome.

METHODS

This was a retrospective cohort study conducted over a 3 year period from 1st January 2010 to 31st December 2012. Data was obtained from the National Obstetric Registry which is an online data base that captures obstetric data from 14 tertiary hospitals in Malaysia. There were a total of 397,521 deliveries analysed.

RESULTS

A total of 2713 cases of pre-existing DM and 32,188 cases of GDM was analysed. In all 3 years it is seen that birth asphyxia and macrosomia rate was higher before 38 weeks in pre-existing DM and GDM. Three quarters of patients with pre-existing DM and GDM had elective Caesarean section between 37-38 weeks. Stillbirth rate was higher in pre-existing DM and GDM before 37 weeks.

Characteristics	22-36wks		37wks		38wks		39wks		40wks		41wks		42wks		P value
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	
DM (Pre-existing) 2012															
Birth Asphyxia															0.008
No	110	0.91	150	1.18	207	0.88	100	0.40	92	0.35	9	0.40	4	0.48	
Yes	16	1.26	6	1.61	6	0.92	2	0.28	4	0.49	-	-	1	2.78	
Shoulder dystocia (SVD/forceps/Vacuum)															0.345
No	125	0.94	156	1.19	212	0.87	102	0.40	96	0.35	9	0.11	5	0.57	
Yes	1	9.09	-	-	1	2.38	-	-	-	-	-	-	-	-	
Birth weight															<0.001
501-1000	3	0.47	-	-	-	-	-	-	-	-	-	-	-	-	
1001-1250	9	2.13	-	-	-	-	-	-	-	-	-	-	-	-	
1251-1500	3	0.47	-	-	-	-	-	-	-	-	-	-	-	-	
1501-2500	44	0.75	24	0.80	20	0.67	6	0.34	4	0.21	-	-	-	-	
2501-3000	27	0.76	61	1.04	64	0.63	35	0.37	34	0.39	2	0.09	-	-	
3001-3500	19	1.25	41	1.30	69	0.83	39	0.37	35	0.31	3	0.08	3	0.91	
3501-4000	14	4.17	21	2.89	45	2.20	12	0.41	18	0.45	1	0.07	2	1.52	
≥ 4001	4	1.58	9	3.04	15	2.18	9	1.27	5	0.53	2	0.54	-	-	
DM(Gestational) 2012															
Birth Asphyxia															<0.001
No	991	8.22	1,463	11.47	2513	10.62	1,743	7.05	1,789	6.80	140	1.74	64	7.60	
Yes	104	8.20	52	13.98	64	9.83	41	5.84	59	7.20	5	1.52	1	2.78	
Shoulder dystocia (SVD/forceps/Vacuum)															0.777
No	1092	8.21	1504	11.48	2566	10.57	1776	7.00	1839	6.79	145	1.74	65	7.43	
Yes	3	27.27	11	52.38	11	26.19	8	15.38	9	7.20	-	-	-	-	
Birth weight															<0.001
501-1000	44	6.84	1	11.11	1	8.33	-	-	2	4.65	-	-	-	-	
1001-1250	34	8.06	3	27.27	2	18.18	1	14.29	-	-	-	-	-	-	
1251-1500	47	7.41	1	5.26	2	14.29	1	5.56	1	2.50	-	-	-	-	
1501-2500	436	7.48	243	8.09	236	7.92	101	5.77	82	4.23	11	3.14	3	3.41	
2501-3000	274	7.75	575	9.81	931	9.10	519	5.49	522	5.95	41	1.77	20	6.78	
3001-3500	167	11.01	452	14.29	894	10.81	774	7.37	806	7.13	59	1.58	30	9.12	
3501-4000	45	13.39	157	21.60	333	16.27	283	9.71	347	8.66	23	1.50	8	6.06	
≥ 4001	36	14.23	80	27.03	171	24.85	102	14.37	85	8.97	11	2.95	3	10.34	

Table 1 DM Pre-existing and DM(Gestational) 2012 Note: Chi-squared test for trend

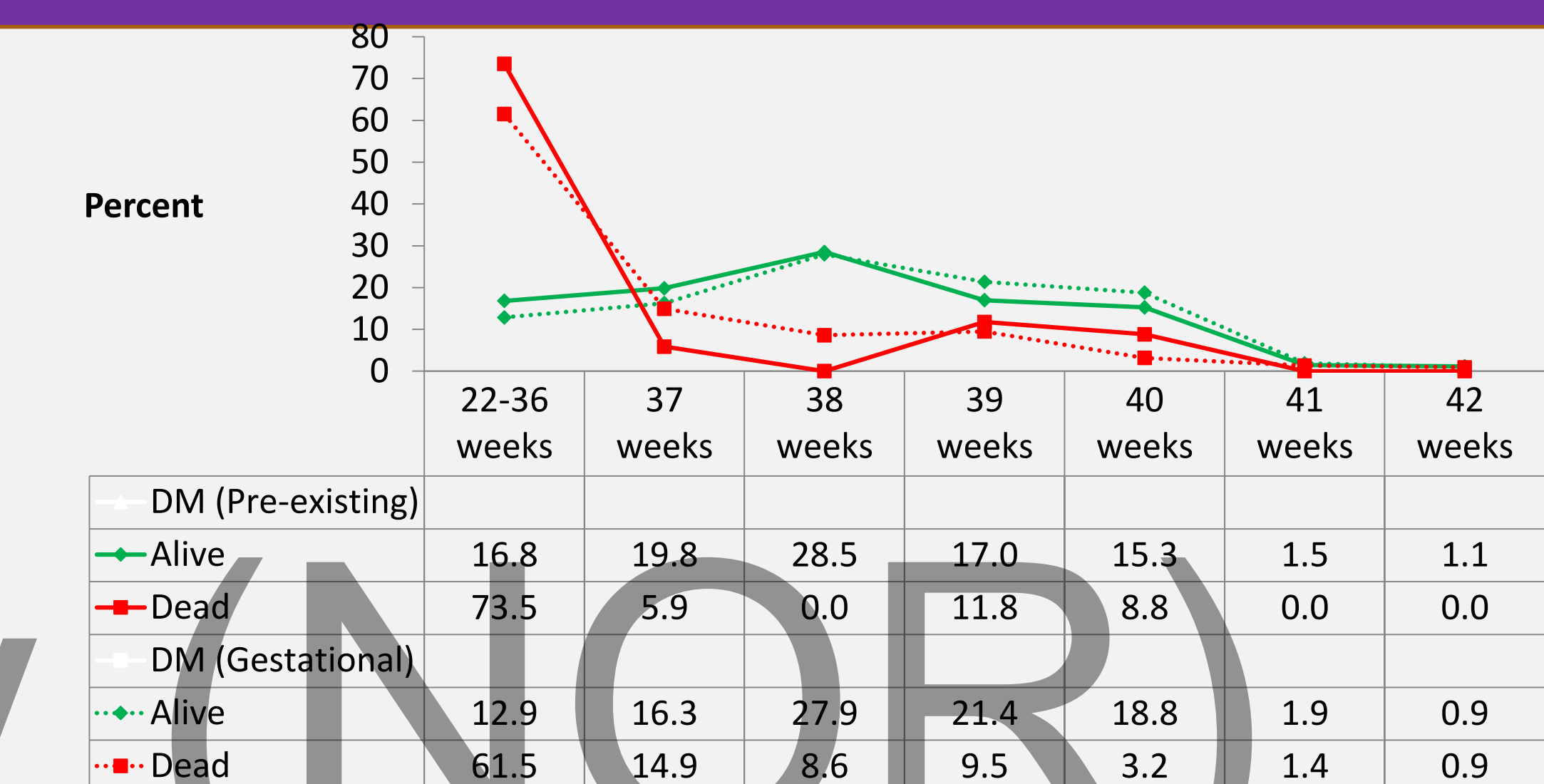


Figure I: Birth status

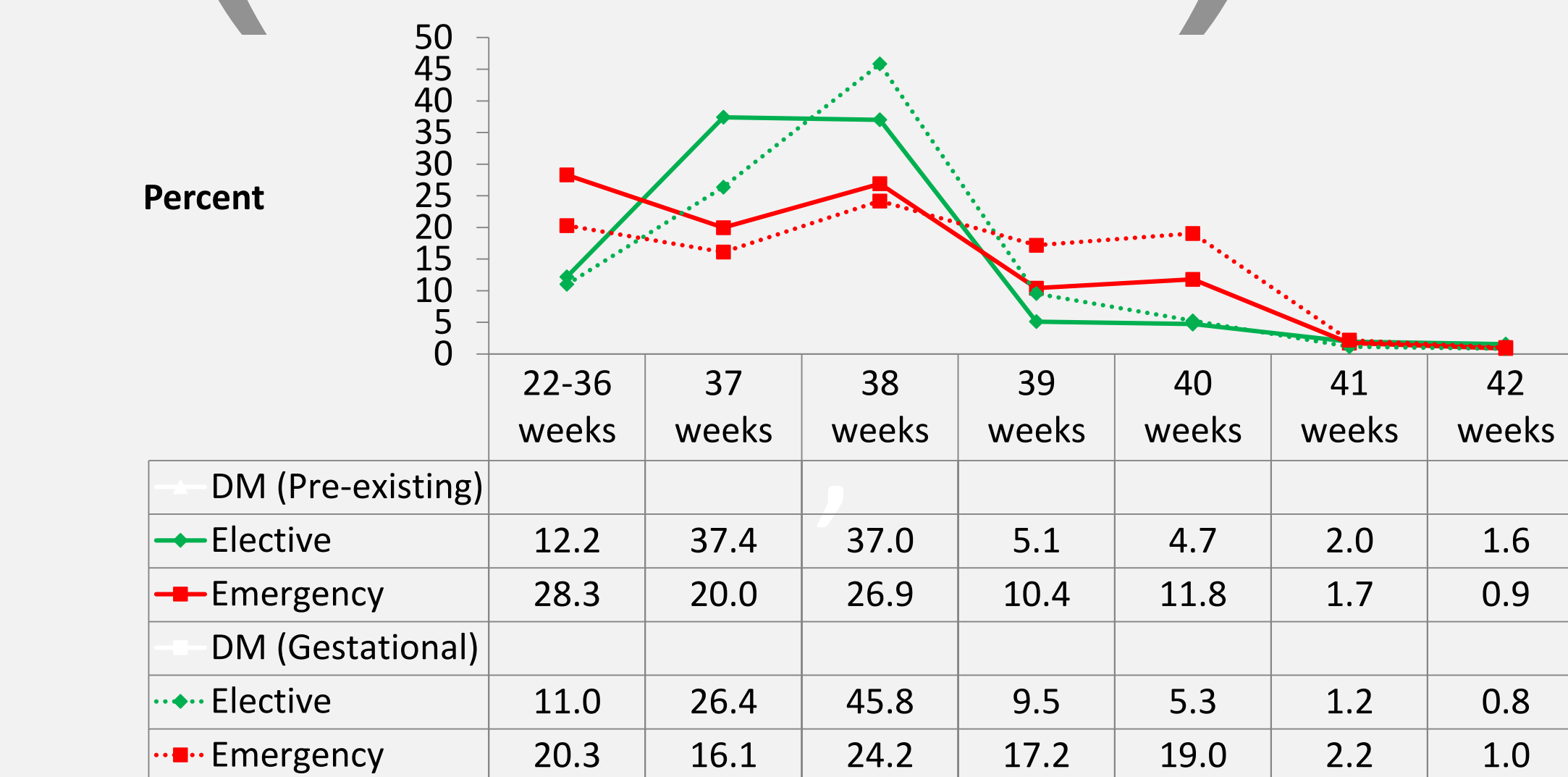


Figure II: Elective and Emergency

CONCLUSION

This study shows similar results from other studies that early delivery leads to higher rate of birth asphyxia, increase morbidity and admissions to neonatal ICU. Further analysis is required to see if early delivery was advocated in view of macrosomia. Still birth rate was also high before 37 weeks and more analysis is required to see early delivery was to prevent fetal demise in patients with poor glycemic control.