

Risks of Having Gestational Diabetes in The Future For Mothers and Their Offsprings

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OBJECTIVES

Gestational diabetes (GDM) has an important short and long-term health consequences for both the mother and her offspring. The aim of this study was to evaluate current metabolic status of women with GDM history and their offsprings approximately at 10th year after delivery.

METHODS

24 mothers who had GDM ten years before (mean age 41.08±4.13 yrs; body mass index (BMI) 30.3±5.9) and their children (11 female, 13 male; mean age of 11.0±1.9 yrs) were enrolled into the study. To evaluate current metabolic status of mothers, 75 g OGTT was performed and according to ADA criteria they were classified into two groups as normal glucose tolerance (group 1: NGT) and glucose intolerance (Group 2: IGT and/or DM). Outcomes of fetal determinants were recorded and current clinical status and laboratory features of offsprings were checked and evaluated if there would be any associations with mothers' metabolic status.

RESULTS

41.6% of mothers had any degree of glucose intolerance at tenth year after delivery. As we concluded fetal determinants in groups, measurements of birth weight (gr), length (cm) were found as 3625.6±680 vs 3197.6±608; 147.6±11.5 vs 146.7±13.0, respectively. As we considered daily status of children, their BMI and waist circumferences were observed as 18.4±3.1 vs 20.6±5.7 kg/m² and 67.7±12.2 vs 71.9±10.1 cm, respectively (p>0.05). Although the difference was not significant, waist circumference and central obesity of offsprings in group 2 was found higher. Also results of fasting glucose and insulin levels of children in group 2 were higher than the others; but difference was not statistically significant. Five of them had lipid profile changes.

CONCLUSIONS

Frequency of glucose intolerance may be increased in the follow-up years; offsprings of mothers having prediabetes may have great risk for obesity and insulin resistance in the future; especially at pubertal period. Those adolescents should be identified and efforts should be done to prevent development of metabolic syndrome and lifestyle should be planned to preserve beta cell function of the pancreas before puberty.

References

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		Group I	Group II (IFG+IGT/DM)	P value
Women (after 11±2 years from delivery)	N(%)	14(58.5)	3(12.5)/ 7(29.2)	
	At diagnosis	100.7±30.8	122.5±32.8	0.08
	OGTT	186.6±86.3	254.1±57.1	0.04
	1st hour	160.4±14.2	250.3±70.6	0.005
	2nd hour	128.5±35.0	161.8±69.2	0.5
	3rd hour			
Fetus of birth	Length (cm)	50.7±2.8	48.9±2.2	0.1
	Length SDS	0.76±1.3	0.83±1.04	0.4
	Weight (kg)	3625.6±680	3197.6±608	0.08
	Weight SDS	1.2±1.4	0.7±1.7	0.9
	Age			
Final status of adolescents	Length (cm)	147.6±11.5	146.7±13.0	0.8
	Length SDS	0.56±0.78	0.47±1.35	0.6
	Weight (kg)	40.94±10.9	45.9±19.0	0.7
	Weight SDS	0.3±0.8	1.0±1.9	0.5
	BMI(kg/m ²)	18.4±3.1	20.6±5.7	0.7
	Waist circumference	67.67±12.2	71.95±10.1	0.3
	Glucose (mg/dL)	92.5±9.0	92.0±6.5	0.8
	Insulin (mIU/mL)	7.3± 3.7	9.4± 7.9	0.6
	FBG / FBI			0.03
	HbA1C (%)	5.49±0.5	5.40±0.1	0.8

