

WHAT ABOUT THE CHILDREN BORN TO MOTHERS ON VEGAN LOW-PROTEIN SUPPLEMENTED DIETS IN PREGNANCY?



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OBJECTIVES

Women with CKD increasingly choose to undergo the challenges of pregnancy, but very few tools are available to counteract the effects of the hyperfiltration of pregnancy. Experience with low protein diets in CKD in pregnancy is limited.

Hence, we report the results obtained in pregnant women with severe CKD treated by supplemented vegan low protein diets, focusing on intrauterine fetal development and on subsequent children growth.

METHODS

Diet group: CKD stages 3b and 4, or stage 3a in the presence of kidney transplant, type 1 diabetes, collagen disease and/or proteinuria >1 g in the first trimester, or nephrotic later on.

Controls: CKD stage 3a not included either for stable, less severe disease, or for late referral, cultural or linguistic barriers, other low-protein diets, eating disorders, patient's choice.

Diet: vegan, low-protein(0.6-0.7 g/Kg/day) with amino and chetoacid supplementation, 1-3 free meals/week.

Compliance, side effects, biochemical data recorded at least twice monthly.

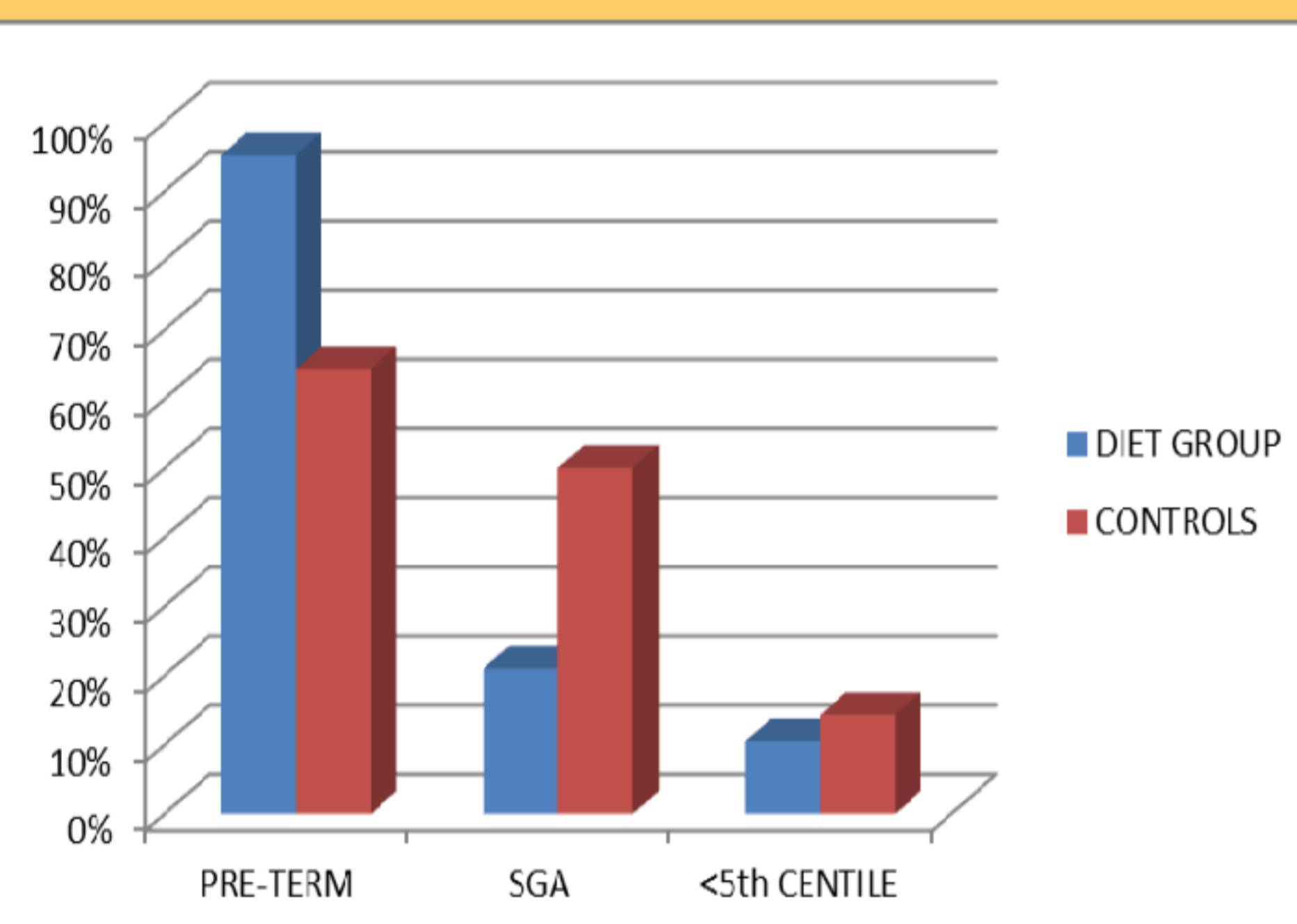
All mothers delivered in the same Center. Small for gestational age (SGA) babies were defined as gestational-age adjusted <10percentile.

RESULTS

MATERNAL DATA (median, min-max)

	DIET GROUP		CONTROLS	
	REFERRAL	DELIVERY	REFERRAL	DELIVERY
age (yrs)	33 (26-40)		31 (22-39)	
sCr (mg/dL)	1.3 (0.5-3.2)	1.5 (0.5-5)	1.4 (1.1-2.9)	1.3 (0.6-4.2)
GFR (ml/min)	75 (20-135)	59 (10-157)	51 (24-60)	66.5 (16-93)
PTO 24h (gr/die)	2.5 (0.2-6.3)	3.9 (0.8-17.3)	0.6 (0.1-2)	1.2 (0.2-7.2)
diabetes	7/21		0	
glomerular disease	9/21		3/14	
interstitial/malformative disease	2/21		10/14	
kidney transplantation	3/21		1/14	

CHILDREN GROWTH OUTCOMES AT DELIVERY



Out of over 350 CKD pregnancies referred between 2000 and 2012, 21 cases were treated by the diet (median age 33 yrs (26-40), sCr 1.3 mg/dL (0.5-3.2), GFR 75 (20-135), proteinuria 2.5 gr/24h (0.2-6.3). 8/21 diabetes-3/21 kidney graft-2/21 interstitial-9/21 glomerular diseases. We identified 14 controls (median age 31 yrs (22-39), sCr 1.4 mg/dL (1.1-2.9), GFR 51 ml/min (24-60), proteinuria 0.6 gr/24h (0.1-2) 1/14 kidney graft-3/14 glomerular diseases-10/14 interstitial or malformative. In the diet group, 1 pregnancy was terminated (patient's choice); 1 was a twin pregnancy; 19 singletons babies were delivered. 1 twin child, affected by great vessel transposition died after neonatal heart surgery. In the control group 14 singletons were delivered. In the diet group, in spite of pre-term delivery in 20/21 cases (<34w 15/21), 4/19 singletons were SGA (2 <5thcentile, 2 5-10thcentile). Conversely in the control group, with pre-term deliveries in 9/14 cases (<34w 6/14), SGA was recorded in 7/14 (2 <5thcentile, 5 5-10thcentile). Mean follow up of the children born from mothers in the diet group was of 33 months (1-120); at the end of each observation period, none of the children had major developmental problems, all attaining normal developmental targets for their age.

CONCLUSIONS

Our report suggests considering vegetarian supplemented diets as an additional and safe tool in the management of selected pregnant CKD patients, with a risk of SGA is at least comparable (and potentially lower) than controls, and a good auxologic profile in the long term.

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