52 Uric acid levels in the highest quartile of the normal range during pregnancy are associated with an increased risk for long-term maternal atherosclerotic morbidity

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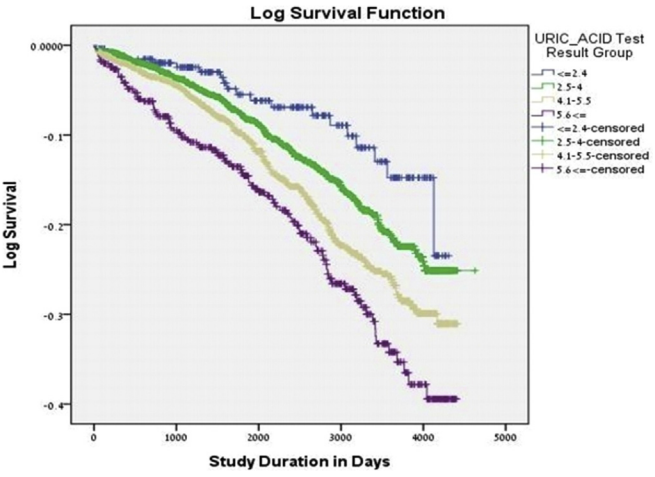
OBJECTIVE: To examine the association between uric acid (UA) level during pregnancy and the development of future long-term maternal atherosclerotic morbidity (including cardiovascular, cerebrovascular and renal disease).

STUDY DESIGN: A case-control study was conducted including women who delivered between the years 2000-2012 and subsequently develop atherosclerotic morbidity (n=588); controls were matched for age and year of delivery (n=3645). The mean follow-up duration was 74 months. The hospitalized group was further divided to major event (cardiovascular, cerebrovascular disease, chronic renal failure), and cardiac procedures (such as coronary angiography). Kaplan-Meier survival curves were used to estimate cumulative incidence of cardiovascular, cerbrovascular and renal hospitalizations. Cox proportional hazards models were used to estimate the adjusted hazard ratios (HR) for hospitalizations.

RESULTS: A significant linear association was documented between UA during pregnancy and long-term maternal atherosclerotic morbidity (Table). Using a Kaplan-Meier survival curve, UA levels in the high quartiles of the normal range had a significantly higher cumulative incidence of hospitalizations (P<0.001; Figure). A Cox proportional hazard model, adjusted for confounders such as pre-eclampsia, diabetes mellitus, and obesity, showed that high UA levels during pregnancy remained independently associated with atherosclerotic hospitalizations (adjusted HR=1.28; 95% CI 1.15-1.43; P<0.001).

CONCLUSION: UA level at the high normal range during pregnancy may predict maternal atherosclerotic morbidity later in non-pregnant life.



	UA≤2.4 (n=273)	UA=2.5-4 (n=2100)	UA=4.1-5.5 (n=1361)	UA≥5.6 (n= 499)	p
Total hospitalizations (n=588)	7.3%	11.9%	16.0%	20.0%	<0.001
Major events (n=331)	2.9%	5.9%	9.0%	15.4%	<0.001
Cardiac procedures (n=80)	0.7%	1.9%	2.1%	2.2%	<0.001