A successful pregnancy requires a successful assistance of kidney

Ha jeong Lee

Pregnancy is characterized by a myriad of physiologic changes, of which the emergence of a placenta and growing fetus are the most dramatic. A successful pregnancy requires important physiologic adaptation such as a marked increase in cardiac output. Early in pregnancy, systemic vascular resistance decreases and arterial compliance increases. These changes leads directly to several other cardiovascular changes including falls of mean arterial blood pressure, increase in heart rate, and consequently a large increase in cardiac output during pregnancy. In kidney, there is physiologic rise of glomerular filtration rate (GFR). Hypertension and/or renal disease occurring in the setting of pregnancy presents a unique set of clinical challenges. Excessive placental production of VEGF antagonists disrupt endothelial and renal glomerular function resulting in edema, hypertension, and proteinuria.

Recent studies have reported that underlying chronic kidney disease (CKD) may increase the risk of adverse pregnancy-related outcomes even from early stage of CKD. Moreover, a history of preeclampsia during pregnancy is known as a risk factor for both cardiovascular disease and end-stage renal disease progression in women. However, it remains uncertain that failure of renal physiologic adaptation during early pregnancy may predict adverse pregnancy outcomes. A successful pregnancy should be supported by a successful physiologic adaptation of kidney. In this talk, kidney will play a role in predicting adverse pregnancy outcome in pregnant women with both impaired and preserved kidney function.