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Webinar

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### Possibility to lower the incidence of late-onset preeclampsia: adequate gestational weight gain in overweight/obese women

First, analyzing our historical population-based cohort since 2001 (absolute exhaustivity of all preeclamptic cases in the south of the island of Reunion, on ap. 1,800 preeclamptics), we have recently described that increased BMI has a linear association with late-onset preeclampsia (LOP,  $\geq 34$  weeks gestation) and NOT with early onset preeclampsia (EOP) and ,very important, that controlling for maternal ages and pre-pregnancy BMI diabetes was no more an independent risk factor neither for EOP or LOP. Hopefully LOP is much less severe than EOP with particularly a high probability of 100% survival of newborns. Hopefully again, LOP represents 90% of preeclampsia cases in developed countries and 70% of cases in other parts of the world. Chronic hypertension and, history of preeclampsia in multigravidas, were the strongest risk factors for EOP. Primiparity, age over 35 years and BMI  $\geq 35$  kg/m<sup>2</sup> were rather associated with LOP. In a multivariate analysis with EOP or LOP as outcome variables compared with controls (normotensive), maternal age and pre-pregnancy BMI were independent risk factors for both EOP and LOP ( $p < 0.001$ ). But, analyzing by increment of 5 (years of age, kg/m<sup>2</sup> for BMI) rising maternal ages and incidence of preeclampsia were strictly parallel for EOP and LOP, while increment of BMI was only associated with LOP. Second, we thought to test if we could counterbalance the morbid effect of overweight/obesity and possibly lower the rate of LOP in a population by strictly monitored interventions on adequate gestational weight gain ( GWG): We have recently retrospectively tested the effect of achieving optGWG ( $\pm 2$ kg) in our reunionnese population by a mathematical simulation on a 18 -year (2001-2018) on 57,000 term pregnancies. The result concerning late onset preeclampsia is that we should almost halve the incidence of this disease in overweight and, moreover in all kind of obese women (class I to III), by achieving an optGWG . Conclusions. 1) . Metabolic factors, other than diabetes, associated with pre-pregnancy maternal corpulence are specifically associated with LOP. This may be a direction for future researches. 2) Without yet knowing the underlying biological metabolic pathways, we may actively counterbalance the morbid effects of high BMIs by halving the incidence of LOP in overweight/obese women. These findings suggest a potentially achievable pathway to actively an approach urgently requiring adequately powered prospective trials.

### Biography

Neonatologist, epidemiologist, specialist- in tropical diseases and perinatal epidemiology. 40 years of work in tropical countries (French overseas departments): 16 years in Guadeloupe (1979-1995, French West-Indies, Caribbean's), 3 years in Tahiti (1995-1998, French Polynesia, Pacific) and since 1999 in Reunion island (Indian Ocean). All his career in level 3 NICU's and university hospitals. Twelve years (2002-2014) at the head of the neonatal department and NICU of the University hospital South Reunion (Saint-Pierre). Creator of the Reunion perinatal epidemiological database (2001), and the International Workshop on Immunology of Preeclampsia (since 1998), and co-founder of the Centre d'Epidémiologie périnatale Océan Indien CEPOI (2010). One year of post-Doctoral Fellowship in perinatal epidemiology (MUSC, Medical University of South Carolina, Charleston, USA, 1991-92). International course of Epidemiology CDC Atlanta (1992).

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