

Inflammatory response in maternal serum during preterm labour

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INTRODUCTION

Preterm birth (PTB) is a delivery before 37 weeks and occurs in 7% of the deliveries in Flanders. PTB is a syndrome initiated by multiple mechanisms (see figure).

Infection and inflammation are the only pathological processes for which a firm causal link with PTB has been established. These processes are chronic and subclinical in nature. Therefore diagnostic markers for subclinical infection and inflammation are needed to identify women at risk for PTB.

GENERAL OBJECTIVE

To identify bacterial and inflammatory markers in women with preterm labour in order to improve understanding of the pathophysiology of preterm labour

STUDY DESIGN & POPULATION

Case control study in women with term and preterm labour vs. non-labouring controls

SAMPLE COLLECTION & PROCESSING

Maternal blood samples and vaginal swabs are being collected. The following inflammatory markers are being assessed using ELISA or Luminex technology: sTREM-1, PXT3, Factor D, SLPI, MMP-3, MMP-9, TIMPs and MMP/TIMP balance.



PRELIMINARY RESULTS

sTREM-1 concentrations are elevated in maternal serum during spontaneous parturition (either term or preterm). sTREM-1 levels are significantly higher in women with preterm vs. term labour.

FUTURE INTERESTS OF OUR RESEARCH GROUP

We are interested to investigate the association between maternal nutritional status and PTB and to explore gene expression profiles and gene-environment interactions (metatranscriptomics) in PTB.

