

# Metabolism in pregnancy: a field for novel therapies

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In response to the recent Review by Sheila Collins ([A heart–adipose tissue connection in the regulation of energy metabolism](#), *Nat. Rev. Endocrinol.* **10**, 157–163; 2014),<sup>1</sup> we would like to mention important data pertaining to pregnant women, a special population in whom natriuretic peptides are widely studied. During pregnancy, maternal lipid metabolism changes to a catabolic state characterized by increased adipose tissue lipolysis.<sup>2</sup> This catabolic state is the target of many pharmaceutical and behavioural treatment interventions.

In the past couple of years, baseline natriuretic peptide B (BNP) levels during pregnancy have been found not to be correlated with maternal pregnant weight or BMI.<sup>3</sup> This observation demonstrates that, in pregnancy, BNP is produced at elevated levels, regardless of adipose tissue deposits, thus indicating that BNP plays a vital part in maternal metabolism. In women with preeclampsia, BNP levels are correlated with leptin levels, implying a potential role for BNP in lipid metabolism.<sup>4</sup> The increased lipolysis observed during pregnancy could,

therefore, be partly attributed to elevated levels of natriuretic peptides as compared with those in adults who are not pregnant. Equally noteworthy is the fact that natriuretic peptide A (ANP) levels are high in the foetus, indicating the involvement of ANP in increased neonatal thermogenesis.<sup>5</sup>

We thus propose that metabolism during pregnancy could be a model for future therapeutic interventions in other adult groups, pregnant women forming an ideal study group on account of their increased metabolism and BNP levels. Identifying targeted therapies that either augment natriuretic peptide production or sensitize the respective receptors may lead to the alleviation of obesity and cardiometabolic disease.

Finally, further research is likely to elucidate whether pregnancy might have a protective role against obesity and cardiometabolic disease, resulting from increased lipolysis in multiparous compared with nulliparous women.

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## Competing interests

The authors declare no competing interests.

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