Comments on "Prenatal interventions for fetal growth restriction in animal models: A systematic review"

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We thank Valenzuela et al. for their complete review of prenatal interventions for fetal growth restriction in animal models [1]. We also believe preclinical studies realized with animal models are mandatory to develop new imaging or treating strategies for the management of growth-restricted fetuses.

However, the authors did not develop a major endpoint regarding the choice of the model and the interpretation of the results of each experiment: the type of placenta and the kinetics of development of the fetuses of each species used. These two aspects are at least as important than the procedure itself to assess the research's applicability to humans.

Our team described in details the type of placentation and the specificities of fetal development of the most current models used for the preclinical study of pregnancy in a review paper published in 2012 [2]. If placental physiology is the main objective of experiments, animal models with a hemo-chorial placenta should be preferred [3]. We think that the rabbit has clear advantages over other animals, first of all: a placental morphology and function similar to the human one and high similarities in fetal development [4,5]. Rabbit is also a well-known and described natural model of IUGR, and several interventions (pharmacological, surgical and environmental) have been detailed in previous works since the 50's [6]. Finally, the rabbit has other benefits, such as a short pregnancy and polycotous that allow case/control studies. It is also of relatively large size making it possible to use current ultrasound equipments [7].

Declaration of competing interest

None.

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