# Maternal Primary adrenal cortex insufficiency during pregnancy: Spotlight on the Fetus and the Neonate. A systematic review and meta-analysis

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ESPE 2021 The 59th Annual Meeting Online 22-26 September 2021

HELLENIC REPUBLIC National and Kapodistrian University of Athens EST. 1837

PosterSessionOnline.com

Presented at: ESPE 2021

## INTRODUCTION

Primary adrenal cortex insufficiency, congenital or acquired, first occurring during pregnancy is a rare condition . Due to this rarity the adverse effects of PAI especially during fetal and neonatal period, when body, sex and organ conformation is determined, are infrequently collected.

## AIM

To **summarize** current knowledge regarding maternal primary adrenal cortex insufficiency and its impact on the fetus and the neonate.

To **quantitively assess** the effect of the above diagnoses on the prevalence of miscarriage, preterm birth, the occurrence of SGA neonates, as well as the neonatal birth weight.

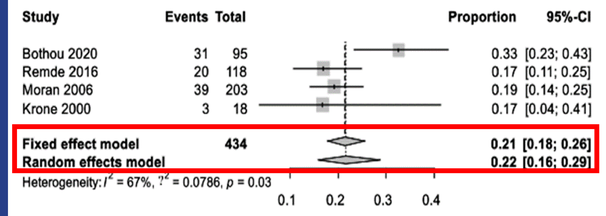
## METHOD

**PubMed,** and **Cochrane Controlled Register of Trials (CENTRAL)** databases were searched .
Categories of interventions examined: **AD, APS, bilateral adrenalectomy and CAH (21-hydroxylase deficiency).**
Type of **outcome** measures: **birth weight, SGA, iUGR, virilization, spontaneous abortion, premature birth, fetal death.**
Electronic search and screening and risk of bias assessment was done by two authors independently
A narrative synthesis and analysis of the results, and a subgroup analysis were conducted. The heterogeneity between studies was assessed by the estimation of Cochrane's Q and I2 statistic

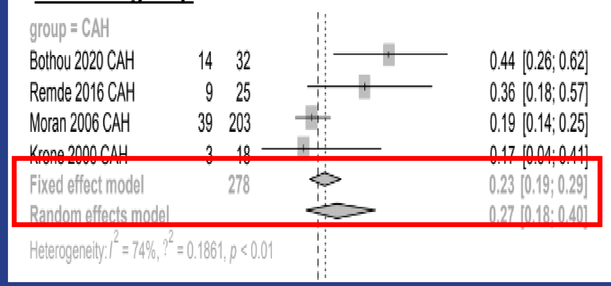
## RESULTS

### Miscarriage

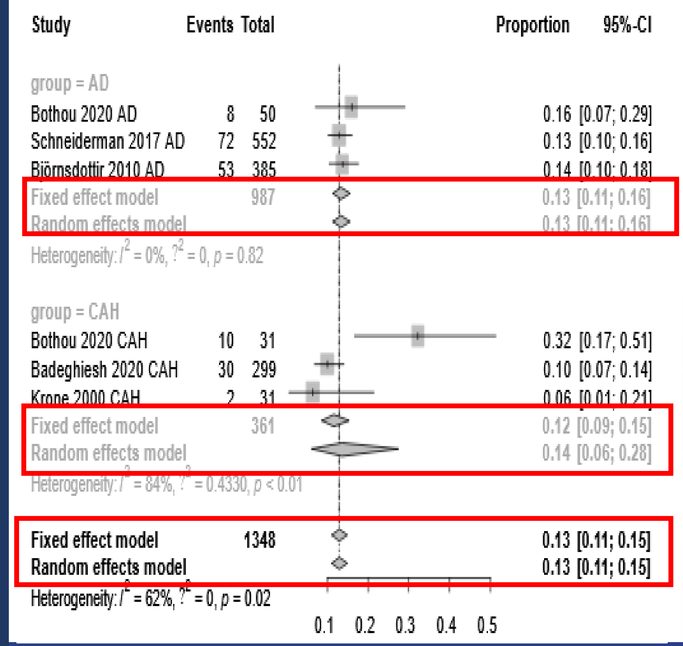
**All women with PAI**



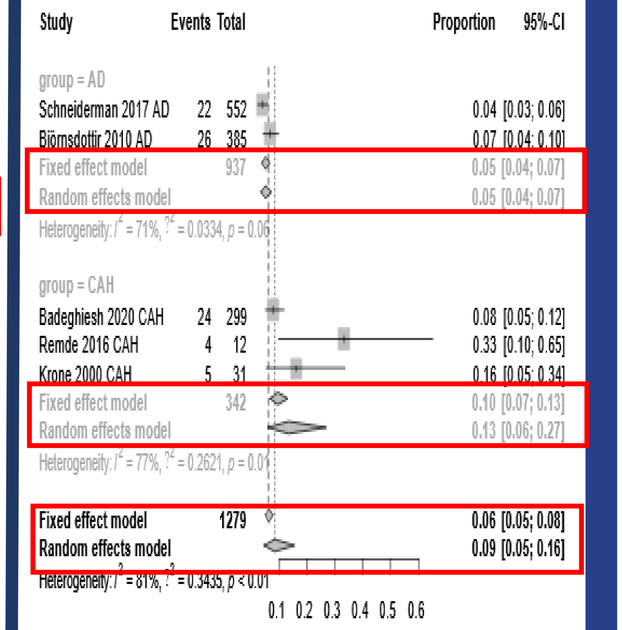

**CAH subgroup**




### Preterm Birth




### SGA neonates




## CONCLUSIONS

The prevalence of **miscarriage** is **22**% among **PAI** women and may reach **27**% among **CAH** women. This prevalence is **18**% among **AD** women.

The prevalence of **prematurity** is **13**% among **PAI** women, and among the **CAH**, **AD** subgroups

The prevalence od **SGA neonates** from **PAI** others is **9**%. This rises to **13**% among **CAH** cases

**Mean birth weight** normal range in all groups

**Fetal congenital anomalies** are seldom

## REFERENCES

**Schneiderman et al**. Maternal and neonatal outcomes of pregnancies in women with Addison's disease: a population-based cohort study on 7.7 million births. BJOG. 2017 Oct;124(11):1772–9
**Krone et al.**. Mothers with congenital adrenal hyperplasia and their children: outcome of pregnancy, birth and childhood. Clin Endocrinol (Oxf). 2001 Oct;55(4):523–9.
**Adonakis et al.** Successful pregnancy outcome in a patient with primary Addison's disease. Gynecol Endocrinol Off J Int Soc Gynecol Endocrinol. 2005 Aug;21(2):90–2.
**Marguiles et al.** Successful pregnancy outcome in a patient with primary Addison's disease. Gynecol Endocrinol Off J Int Soc Gynecol Endocrinol. 2005 Aug;21(2):90–2.
**Fux Otta et al.** Pregnancies associated with primary adrenal insufficiency. Fertil Steril. 2008 Oct;90(4):1199.e17-20.
**Cosimo et al.** Addison's disease and pregnancy: case report. Vol. 3, Journal of prenatal medicine. 2009. p. 53–4
**Björnsdottir et al.** Addison's disease in women is a risk factor for an adverse pregnancy outcome. J Clin Endocrinol Metab. 2010 Dec;95(12):5249–57.
**Bothou et al.** Management and Outcome of Pregnancies in Women With Adrenal Insufficiency: Experience from a Multicenter Survey. J Clin Endocrinol Metab. 2020 Aug;105(8):e2853-63.
**Remde et al.** Fertility and Pregnancy in Primary Adrenal Insufficiency in Germany. Horm Metab Res. 2016;48(5):306–11.
**Lo et al.** Normal female infants born of mothers with classic congenital adrenal hyperplasia due to 21-hydroxylase deficiency. J Clin Endocrinol Metab. 1999 Mar;84(3):930–6
**Badeghiesh et al.** . Pregnancy, delivery and neonatal outcomes among women with congenital adrenal hyperplasia: a study of a large US database. Reprod Biomed Online. 2020 Aug;

## ACKNOWLEDGEMENTS

We acknowledge the help of Christos Chatzakis concerning the statistical analysis of our results.

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