

IMPACT OF MATERNAL SMOKING ON OBSTETRIC AND NEONATAL OUTCOMES IN TWIN PREGNANCIES: A PROSPECTIVE STUDY

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INTRODUCTION

Maternal smoking during pregnancy negatively impacts maternal and fetal health, extending into the postnatal period. The pathophysiological mechanisms have been extensively studied in singleton pregnancies, demonstrating how maternal smoking affects fetal and placental development through the effects of nicotine and other metabolites.

However, in twin pregnancies, which have a higher rate of perinatal complications, the impact of tobacco has not been evaluated.

OBJECTIVES

This study aims to evaluate the impact of maternal smoking on obstetric and neonatal outcomes in twin pregnancies.

METHODS

A prospective study is being conducted. All twin pregnant women who were attended at Hospital Universitari i Politècnic La Fe de Valencia and signed de informed consent were included, with 26 of them enrolled to date and 12 who have already delivered. They were divided into groups of active smokers (n=4), passive smokers (n=4) and non-smokers (n=18).

RESULTS

1

The mean SatO2, showed no differences between the groups.

2

The mean CO ppm was higher in the group pf active smokers and seemed to increased as gestation progressed.

3

However, no differences were found between the passive smokers and non-smokers groups.

CONCLUSIONS

Active smoking in twin pregnancies is associated with an increase in exhaled carbon monoxide, which seems to rise as gestational age progresses. This value correlates positively with FCOHb, which could lead to a higher rate of both obstetric and neonatal complications. This study could provide a more comprehensive understanding of the impact of maternal smoking on twin pregnancies and contribute to the development of targeted interventions to mitigate these risks.

Age	Group	Cig/day	Chorionicity	10 GW	16 GW	24 GW	28 GW	32 GW
33	Non-smoker	0	Monochorionic diamniotic spontaneous	1 ppm CO 100 % SPO2	1 ppm CO 99 % SPO2	2 ppm CO 100 % SPO2	1 ppm CO 99 % SPO2	2 ppm CO 100 % SPO2
37	Non-smoker	0	Monochorionic monoamniotic spontaneous	1 ppm CO 99 % SPO2	1 ppm CO 100 % SPO2	2 ppm CO 98 % SPO2	2 ppm CO 98 % SPO2	2 ppm CO 98 % SPO2
31	Non-smoker	0	Dichorionic diamniotic TRA	1 ppm CO 98 % SPO2	2 ppm CO 98 % SPO2	2 ppm CO 99 % SPO2	2 ppm CO 99 % SPO2	2 ppm CO 98 % SPO2
30	Active and passive smoker	7/10	Dichorionic diamniotic TRA	9 ppm CO 99 % SPO2	14 ppm CO 98 % SPO2	16 ppm CO 97 % SPO2	—	2 ppm CO 99 % SPO2
28	Passive smoker	6	Dichorionic diamniotic TRA	1 ppm CO 99 % SPO2	1 ppm CO 98 % SPO2	1 ppm CO 99 % SPO2	1 ppm CO 98 % SPO2	1 ppm CO 99 % SPO2
25	Non-smoker	0	Dichorionic diamniotic spontaneous	1 ppm CO 98 % SPO2	1 ppm CO 97 % SPO2	1 ppm CO 99 % SPO2	1 ppm CO 100 % SPO2	1 ppm CO 100 % SPO2
36	Non-smoker	0	Dichorionic diamniotic TRA	1 ppm CO 99 % SPO2	2 ppm CO 98 % SPO2	2 ppm CO 99 % SPO2	1 ppm CO 99 % SPO2	2 ppm CO 98 % SPO2
34	Non-smoker	0	Dichorionic diamniotic TRA	1 ppm CO 99 % SPO2	1 ppm CO 100 % SPO2	1 ppm CO 99 % SPO2	1 ppm CO 98 % SPO2	1 ppm CO 99 % SPO2
34	Active smoker	6	Trichorionic quatiamniotic spontaneous	5 ppm CO 98 % SPO2	7 ppm CO 99 % SPO2	—	—	—
40	Non-smoker	0	Dichorionic diamniotic spontaneous	1 ppm CO 99 % SPO2	2 ppm CO 100 % SPO2	1 ppm CO 100 % SPO2	1 ppm CO 98 % SPO2	1 ppm CO 99 % SPO2
31	Non-smoker	0	Dichorionic diamniotic spontaneous	1 ppm CO 100 % SPO2	1 ppm CO 100 % SPO2	2 ppm CO 98 % SPO2	2 ppm CO 100 % SPO2	1 ppm CO 99 % SPO2
44	Active and passive smoker	1/10	Monochorionic diamniotic TRA	1 ppm CO 98 % SPO2	2 ppm CO 99 % SPO2	1 ppm CO 97 % SPO2	1 ppm CO 98 % SPO2	1 ppm CO 97 % SPO2