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The effects of iodoprophylaxis on thyroid volume and nodular size during pregnancy in an iodine-sufficient area

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INTRODUCTION

- During pregnancy, the thyroid volume (TV) increases by 20% to 35% in areas with iodine deficiency. In iodine-sufficient countries, while some studies showed an increase in TV by 10-15%, others did not observe any change in TV during pregnancy. Thyroid nodules may be present in up to 15-35% of pregnant women in areas with moderate iodine deficiency. However, in areas with iodine-sufficient, thyroid nodules were investigated in a few number of studies

OBJETIVE

- We aimed to evaluate the TV and prevalence of thyroid nodules during pregnancy in an iodine-sufficient area

SUBJECTS AND METHODS

- We prospectively followed, in an iodine-sufficient area, 205 pregnant women (mean age 32.98 ± 5.01 years) in the first-trimester (1T) and 65 control group of non-pregnant healthy women matched by age and body mass index. Pregnant women were supplemented with 200 µg of iodine daily. We evaluated thyroid hormone levels, ultrasound examination of thyroid and urine iodine concentration (UIC) in the 1T, and thyroid nodules in the third-trimester (3T).

RESULTS

-The pregnant women group showed: median UIC 193 µg/l, mean serum TSH 3.44 ± 1.96 mUI/l and mean TV 9.17 ± 3.30 ml in the 1T. Twenty-two women had thyroid nodules on thyroid ultrasonography at the 1T. The number of nodules and the maximum diameter of dominant nodule did not change in the 3T (11.2 ± 4.2 ml against 10.2 ± 4.2 ml in the 1T). The control group of non-pregnant women showed: median UIC 143 µg/l, mean serum TSH 2.75 ± 2.02 mUI/l and mean TV 8.07 ± 2.20 ml. Ten women had thyroid nodules on thyroid ultrasonography (15.38%).

VARIABLES	NON PREGNANT WOMEN	PREGNANT WOMEN
N	65	205
AGE (years) (mean± SD)	32,40 ± 6,3	32,98 ± 5,01
BMI(kg/m²) (mean± SD)	22,98 ± 1,2	23,54 ± 2,10
Goiter (%)	0 %	2,92 %
VT(ml) (mean± SD)	8,07 ± 2,2	9,17 ± 3,3 *
UIC(ug/l) (median)	143,6	193,4 *
TSH(mUI/l) (mean±SD)	2,75 ± 2,02	3,44 ± 1,96 *
fT4 (ng/dl)(mean± SD)	0,706 ± 0,15	0,710 ± 0,16
Number nodules n (%)	10 (15,38%)	22 (10,73 %)
Number nodules 2-5 mm	5	9
Number nodules 6-10 mm	3	5
Number nodules > 10 mm	2	8
Consumption iodized salt(%)	44,61 %	61,95 % *

Table 1. Descriptive analysis of the variables in non-pregnant women and pregnant women in an iodine- sufficient area

CONCLUSIONS

- In an iodine-sufficient area as Spain, during pregnancy, the TV increase by 13.63% and is associated with urine iodine concentration. Thyroid nodules were present in 10.73% of pregnant women and did not increased in the 3T.