SERUM ALDOSTERONE AND PLASMA RENIN ACTIVITY IN NORMAL AND TOXAEMIC PREGNANCIES

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Summary: The present study was performed to examine serum aldosterone and plasma renin activity variations in normal and toxaemic pregnancy. Blood samples were collected by 166 normal pregnant women and 196 toxaemic women.

Results don't show important differences between normal and toxaemic pregnancies concerning either serum aldosterone or plasma renin activity.

Following Page's work (1947) many studies on renin-angiotensin system and its modifications in normal and toxaemic pregnancy were carried out.

Early in the pregnancy PRA (Plasma Renin Activity) reaches double levels compared with non-pregnant women; that will be constant till delivery ([6]).

Angiotensin II increases progressively during the pregnancy and reaches its maximum level at about 30th week ([10]).

Contrasting data concerning PRC (Plasma Renin Concentration) and PRS (Plasma Renin Substrate), expressed as Angiotensin I, were found ([2, 7]).

Angiotensin III, heptapeptide, was studied very little: Bailie and Oparil did not find it in the renal vein blood ([11]).

During the pregnancy renin-like substancies could be produced by placenta, myometrium and foetal tissues, but their role in the pathogenesis of toxaemia isn't clear ([1]).

Serum aldosterone levels increase after 15th week in normal pregnancy ([4, 5]).

In this paper we report data concerning PRA and serum aldosterone levels in 166 normal pregnant women (7th-43rd week) and 196 toxaemic women (Gestosis index between 3 and 9) attended our Department for 12-36 hours.

Normal pregnant women were randomly selected among outpatients or attended patients for abortion, fetal monitoring before labor or some disease which doesn't affect PRA and aldosterone levels (cervical incompetence, placenta praevia, preterm labor etc.).

Blood samples were collected from the arm vein, at 7 a.m. after bed rest (one hour or more). Serum was stored at −20 °C.

Assay was carried out by usual RIA kits.

Results (figs. 1 and 2) did not show important differences between normal and toxaemic pregnancies either concerning serum aldosterone or PRA levels. We did not see clear variations among different weeks pregnancy too (fig. 3).

In order to explain correctly such results, we must consider the most toxaemic women who were affected by very mild forms of disease. Moreover blood samples were carried out 12-36 hours after the admission. So the therapy and bed rest could modify the haemodinamic situation of the patients.

Clin. Exp. Obst. Gyn. - ISSN: 0390-6663
XII, n. 3-4, 1985

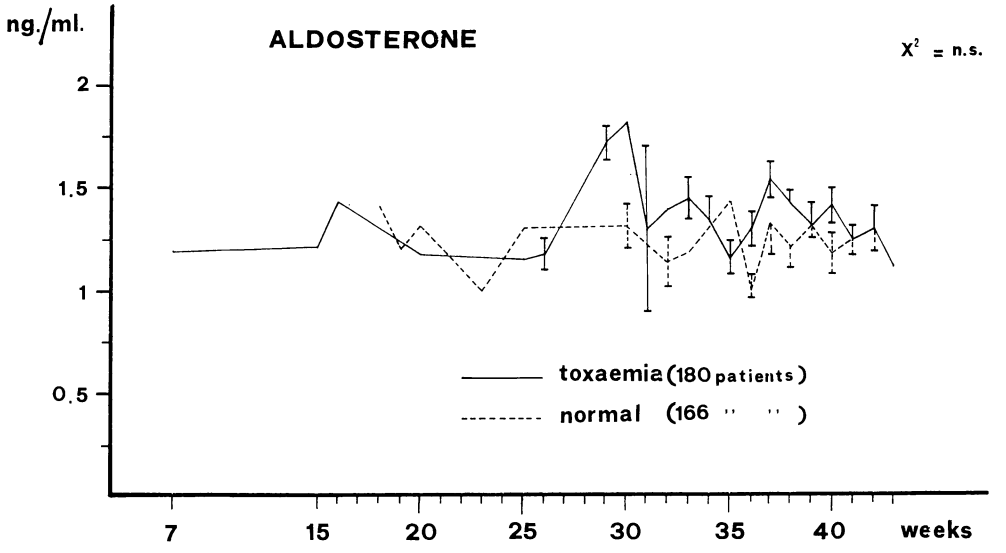
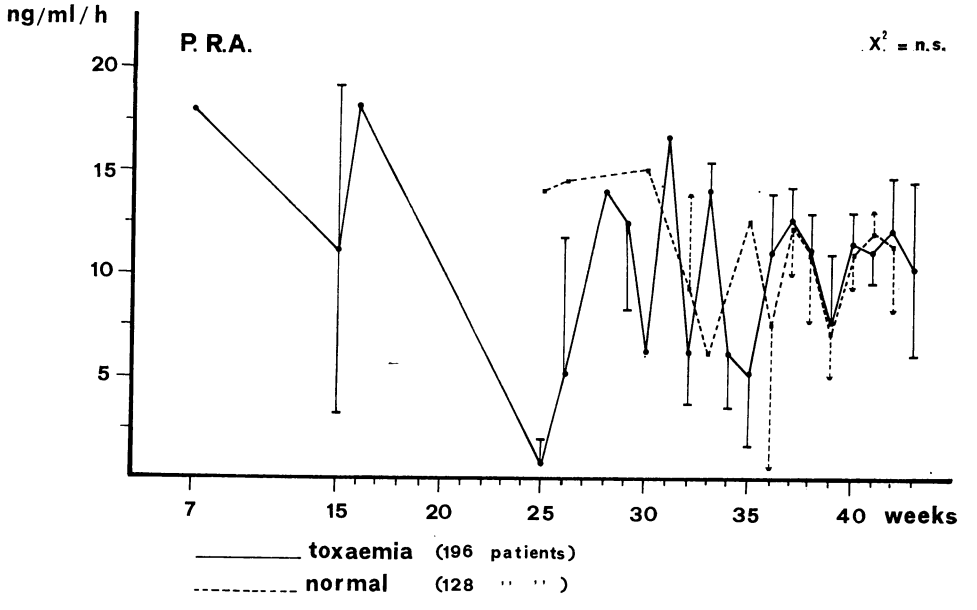

ng./ml.
ALDOSTERONE
X^2 = n.s.
2
1.5
1
0.5
toxaemia (180 patients)
normal (166 " ")
7
15
20
25
30
35
40
weeks

Fig. 1.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P. R.A.
X^2 = n.s.
20
15
10
5
7
15
20
25
30
35
40
weeks
toxaemia (196 patients)
normal (128 " ")

Fig. 2.

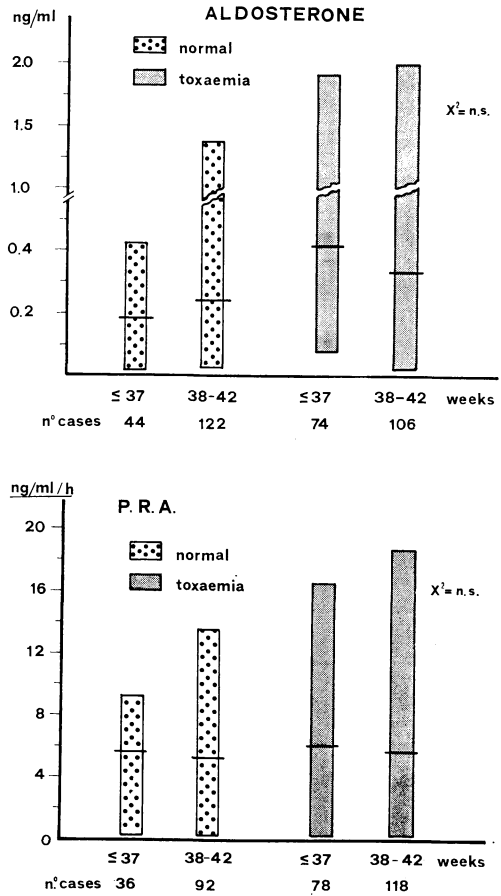

Fig. 3.

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