

Effect of chronic administration of *Cecropia obtusifolia* (Moraceae) on mean arterial pressure in rats

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(Received December 19, 1986)

Resumen Se le administró un extracto acuoso liofilizado de la morácea *Cecropia obtusifolia* en el agua de beber a un grupo de ratas (hembras y machos) de la variedad de hipertensas espontáneas.

En los machos no se encontraron diferencias significativas en la presión arterial media y en la frecuencia cardíaca al cabo de cuatro semanas de ingerir el extracto. En el caso de las hembras sólo se detectaron diferencias significativas en la presión arterial media, al término de la cuarta semana, pero no en la frecuencia cardíaca.

Aqueous leaf extracts of *Cecropia obtusifolia* have been shown to have a hypotensive effect when given intravenously in normal rats (Vidrio 1982) and dogs (Salas 1985), but the mean arterial pressure fell deeper and with lasting effect on conscious spontaneously hypertensive rats, SHR (Salas *et al.*, 1986). Therefore, it seemed interesting to test the extract on the SHR model when the extract is given chronically *per os*.

The experiment was carried out using two groups, male (n = 20) and female (n = 15) mature SHR. Treated animals drank an aqueous solution of the extract in the drinking water (final concentration of 20 mg/kg) and the control received tap water, in both cases *ad libitum*. The rats were housed in groups of three or six animals and fed with a rat chow (La Pradera S.A.) purchased from a local supplier. At fixed weekly periods, a group of animals (5 to 7) was prepared for mean arterial pressure recording. Under ether anesthesia a carotid artery was catheterized with polyethylene tubing (PE-50) in the morning, and late in the same afternoon the MAP was measured in a conscious state, by means of a strain gauge transducer and a Hewlett Packard polygraph (model 7754 A). Cardiac frequency was determined from the pulse wave of the pressure recording.

Measurements of the cardiovascular parameters of the males were obtained at the end of the first, third and fourth weeks; and in females, at the end of the third and fourth weeks. In both cases, changes in the cardiovascular parameters were statistically compared with control animals by means of a "t" test for independent groups.

The aqueous leaf extract given to SHR *ad libitum* did not show any significant differences in both MAP and cardiac frequency, when compared with the controls, in the tested weeks (I, III and IV) (Figs. 1 and 2). Even though the experimental female group followed the same trend, at the end of the fourth week the MAP was lower than the control ($p < 0.05$) (Fig. 2).

Because the ingestion of the drinking water and the extract did not differ among them on a per weight basis, a different amount of the active principle could not explain this finding, which probably is due to sex characteristics.

REFERENCES

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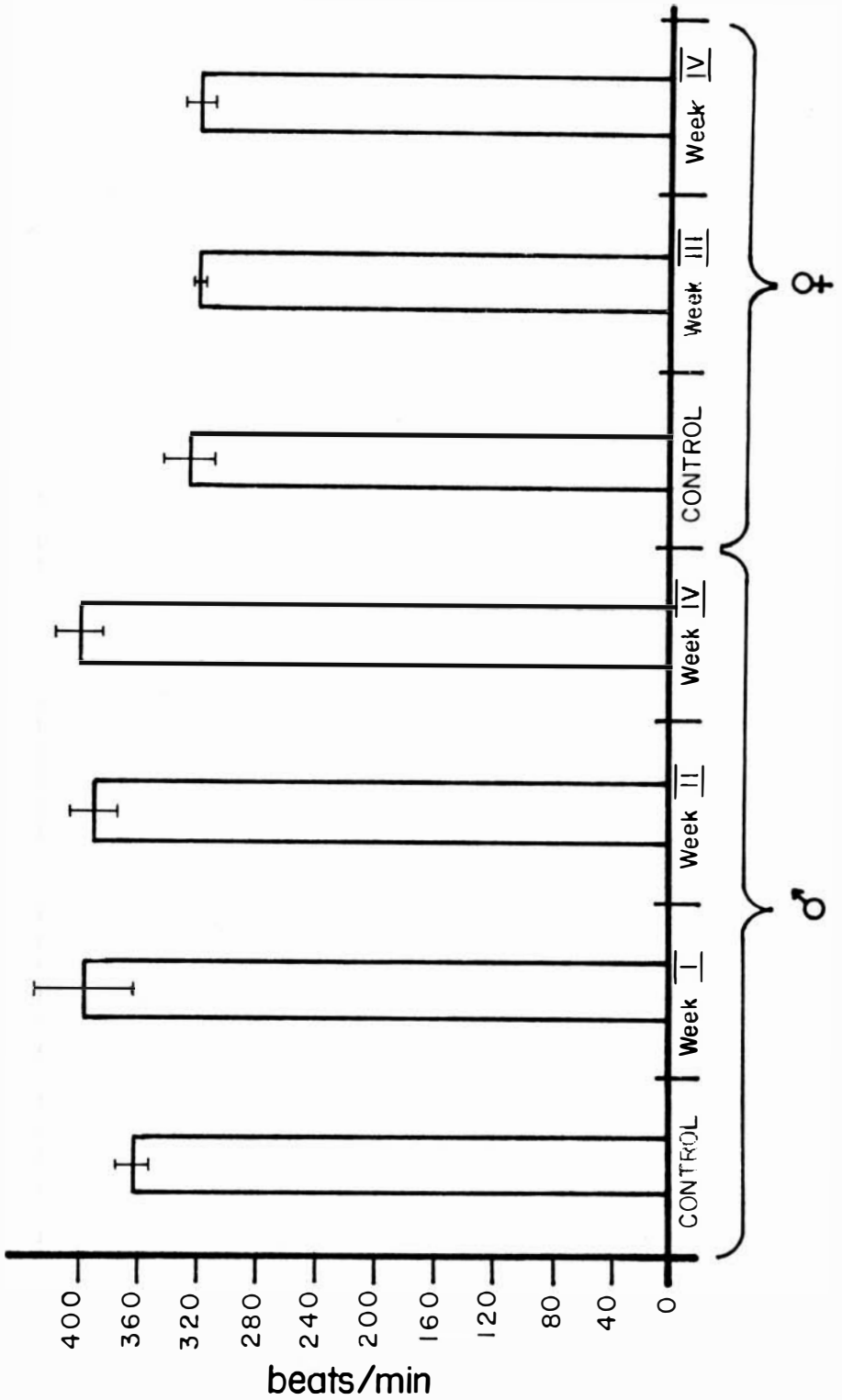


Fig. 1 Effect of chronic administration of *C. obtusifolia* on cardiac frequency in conscious spontaneously hypertensive rats (SHR).

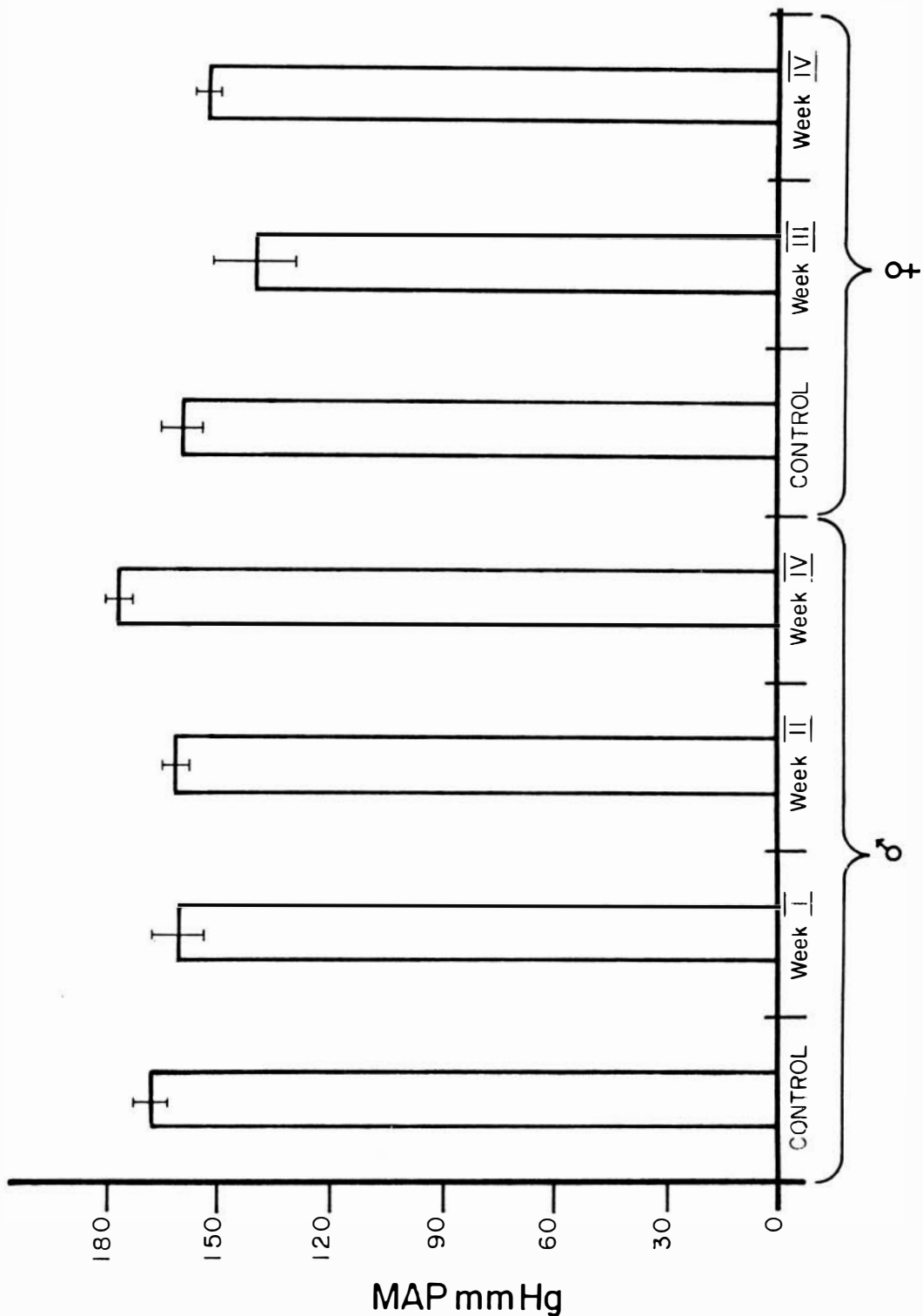


Fig. 2 Effect of chronic administration of *C. ofusifolia* on mean arterial pressure in conscious spontaneously hypertensive rats (SHR).

Salas, I.G., J. R. Brenes & Orlando Morales. 1986. Antihypertensive effect of a *C. obtusifolia* leaf extract on conscious spontaneously hypertensive rats. Rev. Biol. Trop. (in press).

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