B153 Spasmolytic activity of *Althernathera repens* (L.) Kunze

M.E. Garín-Aguilar [a], E. Barajas Olivares [a], D. Segura Cobos [a], G. Valencia del Toro [a,b] and M. Soto-Hernández [c]
[a] Facultad de Estudios Superiores Iztacala, UNAM. Av. de los Barrios s/n Los Reyes Iztacala Tlalnepantla, Edo. México 54090, Mexico. [b] Unidad Profesional Interdisciplinaria de Biotecnología IPN, Av. Barrio la Laguna s/n, Distrito Federal, Mexico. [c] Colegio de Posgraduados, Montecillo, Edo. México. 56230. Mexico.

Alternathera repens infusions are used in México for the treatment of diarrhea, stomachache and intestinal inflammation (1,2). To determine whether the described effect is due to its activity on intestinal motility and establish the basis of this activity, in this study was evaluated the *in vitro* spasmolytic activity (3) of the aqueous extract of *A. repens* on rat isolated ileum. It was determined dose response curves of a) acetylcholine (ACh 10^{-7}-10^{-6} M); b) ACh and aqueous extract of *A. repens*; c) aqueous extract on precontracted ileum with 100 mM KCl; d) Calcium (0.35-1.63 mM) and e) Calcium in presence of aqueous extract (0.56-2.1 mg/ml). The records were obtained four times.
It was demonstrated the spasmolytic activity of the aqueous extract of the leaves of *A. repens* on rat ileum. The dose of 3.83 mg/ml of the aqueous extract reduced the spasm in a 95 % on precontracted ileum whereas with 100 mM KCl the reduction was 69%. The dose of 228 µg/ml of the aqueous extract reduced the spontaneous activity in 40% and those of 2.1 mg/ml abolished completely the peristaltic activity. The results suggest that the aqueous extract of the leaves of *A. repens* contains compounds which correspond with anti-cholinergic activity and also with calcium channel blockers.

Acknowledgements: Laboratory of Pharmacology. FES-Iztacala, UNAM. Dra. Beatríz Vázquez Cruz.

References: 1. Aguilar, A. et al. (1994) Herbario medicinal del Instituto Mexicano del Seguro Social. Ed. IMSS, México. pp 13-14. **2.** Argueta, V.A. et al. (1994) Atlas de las Plantas de la Medicina Tradicional Mexicana III. Ed. Instituto Nacional Indigenista. México. pp 1334-1335. **3.** Perry, W.L.M. (1970) Pharmacological Experiments on Isolated Preparations. Ed. Churchill Livingstone. New York. pp. 58-77.

B154 Antiulcerogenic activity of paepalantine on experimental models in mice

L.C. Di Stasi [a], L.N. Seito [a], F.G. Gonzalez [a] and W. Vilegas [b]
[a] Departamento de Farmacologia, Instituto de Biociências, UNESP, Botucatu, SP, 18618-000, Brazil (ldistasi@ibb.unesp.br). [b] Instituto de Química, UNESP, Araraquara, SP, Brazil.

Paepalantine (9,10-dihidroxy-5,7-dimethoxy-1H-naphtol(2,3c)pyran-1-one), an isocoumarin isolated from *Paepalanthus bromelioides* Silv., Eriocaulaceae (a Brazilian endemic shrub of the Serra do Cipó, MG, Brazil) was selected because it shows chemical features related to several compounds with antioxidant, antiulcerogenic and anti-inflammatory activities as coumarins, flavonoids and other phenolics. Paepalantine was isolated from capitula by Silica-gel column chromatography (yield 0,35%) and chemically defined by ^{1}H NMR, ^{13}C NMR and Infrared Spectroscopy. Antiulcerogenic activity was evaluated by three assays: ulcers induced by 0.1 ml of ethanol/animal, 7.0 ml/Kg of HCl 0.3 M in 60% ethanol and 40 mg/Kg of indomethacin plus 5 mg/Kg of bethanecol. Mice were given 100 mg/Kg of paepalantine (dissolved in tween 80) orally 1 h before administration of ulcer inducers. A control group (tween 80) and two reference groups (100 mg/Kg of cimetidine or 200 mg/Kg of carbenoxolone) were included for comparison. After each experiment, animals were killed by cervical dislocation, the stomach removed, opened along the greater curvature and fixed between two glass plates. Each stomach was scanned in a Scanner Jet HP and the image stored at 100 MB disks for use with Zip drive. A specific software (Area) was used for the measuring of each lesion point (mm^2). The results were expressed as media ± S.E.M. of the total lesion area (mm^2); relative lesion area to total stomach area (%), and ulcerative index (U.I.) Statistical significance was determined by one-way variance analysis plus Tukey for $p<0,05$. The results obtained showed that paepalantine was highly effective in the ulcers induced by ethanol and ethanol/HCl, but it was inactive in model of ulcer induced by indomethacin/bethanecol. In models of ethanol and ethanol/HCl, paepalantine inhibited in 66.8 and 71.9% the area total of ulcers, 43.2 and 51.4% the relative area of ulcer and 50.7 and 62.9% the ulcerative index, respectivelly. These results suggests that antiulcerogenic effect of paepalantine probably is due to an enhancement of the gastric mucosal defensive mechanisms.

Acknowledgements: CNPq (Conselho Nacional de Desenvolvimento Científico e Tecnológico, Federal Government of Brazil, Proc. 200757/01-6).