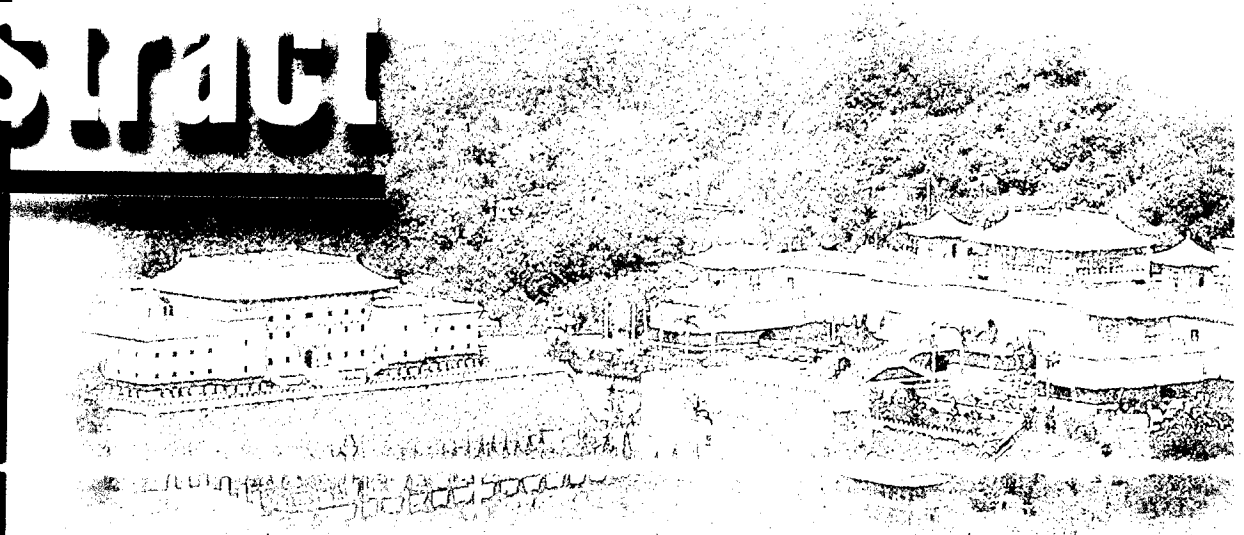
Pharmacology in the Next Millennium

The 8th Southeast Asian - Western Pacific Regional Meeting of Pharmacologists

Taipei International Convention Center, November 1-5, 1999

Abstract



P144

CHARACTERIZING THE INHIBITORY EFFECTS OF YC-1 ON BALLOON INJURY-INDUCED RESTENOSIS ON RAT CAROTID ARTERIES

G.Y. Chang, H.Y. Tsai, S.C. Kuo, C.H. Wu Dept of Pharmacology, China Medical College, Taichung, Taiwan

Since 3-(5'-hydroxymethyl-2'-furyl)-1-benzyl indazole (YC-1) has been reported to elicit vasorelaxation by increasing intracellular cyclic GMP levels, it has therefore prompted us to study if YC-1 can be applied as a therapeutic agent to prevent balloon injury-induced restenosis. To demonstrate the antiproliferation effects, cultured smooth muscle cells treated with YC-1 were subjected to flowcytomertric analysis. The *in vitro* results show that 55% of S phase stimulated by 15% serum were decreased to 7%, 10% and 13% by 100 μg/ml, 10 μg/ml and 1 μg/ml of YC-1, respectively. These data suggest the potent inhibitory effects of YC-1 on smooth muscle cell proliferation. The mRNA levels of guanylyl cyclase was also evaluated under the effects of YC-1. Similar to the antiproliferation effects, the increase in guanylyl cyclase mRNA levels by YC-1 also showed a dose-dependent manner as measured by RT-PCR. In the *in vivo* study, YC-1 was applied topically on the balloon injured rat carotid arteries and sacrificed two weeks later for histological analysis. A significant reduction with more than 40% in area ratio of neointima to media was found in YC-1 treated group as compared to controls. These resutls suggest that YC-1 may be a potential pharmacolgical reagent in preventing balloon injury-induced restenosis.

P145

THE NEUROPROTECTIVE EFFECT OF A FORMULA OF CHINESE MEDICINE XIAO XU MING TANG (BNG-1) ON RAT BRAIN ISCHEMIA INDUCED BY MIDDLE CEREBRAL ARTERY OCCLUSION

W. -L. Chen, J. -W. Wei, F. -C. Cheng, and *K. -S. Huang, MDS Panlabs Taiwan, Ltd. Taipei. and *Brain Genesis, Inc, San-Chung City, Taiwan, R.O.C.

This study was conducted to examine the possible therapeutic efficacy of XIAO XU MING TANG (BNG-1 was provided by Brain Genesis, Inc.) in an animal model of induced focal brain ischemia. The ischemic insult in chloral hydrate anesthetized rats was caused by permanent unilateral occlusion of a middle cerebral artery (MCAO). BNG-1, dissolved with saline, was administered at doses of 1000 mg/kg (n = 10) and 500 mg/kg (n = 10) orally (PO) daily for 7 days before and 3 days after MCAO. The vehicle-control group (n = 10) was similarly treated with saline alone. The positive control reference agent MK-801 dissolved in saline was injected at 0.3 mg/kg (n = 5) (IP) in a volume of 5 ml/kg at 0, 6, 24, 30, 48, and 54 hrs after MCAO. On the fourth day after the ischemic insult, all animals were sacrificed by decapitation. The infarcted area, indicated by 2% cresyl violet staining, was measured by computerized image analysis.

A significant reduction of 66.30 ± 9.01% by MK-801 at 0.3 mg/kg × 6 (IP) and 44.09 ± 9.01% by BNG-1 at 1000 mg/kg × 10 (PO) relative to the vehicle-treated control group while a non-significant reduction of 14.17 ± 19.43% was observed after 500 mg/kg × 10 (PO) of this formula. Thus, BNG-1 may have potential therapeutic efficacy in the treatment of brain ischemia.