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<td>Cho, CH; Mei, QB; Kaan, SK</td>
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P6.3.19
THE ASSESSMENT OF 5-HYDROXYTRYPTAMINE ON THE HAEMODYNAMIC
CHANGES AND PLATELET AGGREGATION ON GASTRIC MUCOSAL BLOOD
FLOW IN RATS.
C.H. Cho, Q.B. Mei and S.K. Kaan. Department of Pharmacology, Faculty of Medicine,
The University of Hong Kong, Hong Kong.

The effects of 5-hydroxytryptamine (5-HT) on gastric mucosal blood flow and lesion
formation have been established. However, the mechanisms accounted for the reduction
of gastric mucosal blood flow have not been defined. The current study was to attest the
hypothesis that decrease of gastric mucosal blood flow is the result of changes of systemic
blood pressure and/or platelet aggregation in rats. 5-HT (given i.p. 5 or 10 mg/kg) time-
and dose-dependently reduced gastric mucosal blood flow and systemic arterial blood
pressure; it also potentiated ethanol-induced mucosal damage. Methysergide (a 5-HT1-
receptor blocker) pretreatment alleviated the decrease of gastric mucosal blood flow and
lesion formation but not the systemic blood pressure. Also in the 5-HT-treated animals,
the mucosal oxygen (O2) and haemoglobin levels as well as the systemic blood CO2 were
reduced, but the blood O2 was increased. The latter two parameters correlated with
elevation of respiratory rate. The blood platelet count was not affected by 5-HT
pretreatment. Adenosine diphosphate (ADP) dose-dependently induced a similar degree
of platelet aggregation in platelet rich plasma fractions in the saline and 5-HT-treated rats
in vitro. 5-HT in the concentrations of 1 or 10 μM, promoted the platelet aggregation
produced by ADP. However, this action was attenuated in the 5-HT-pretreated rats,
indicating that a tachyphylaxis of 5-HT action on platelet aggregation could occur. It is
concluded that the depression of gastric mucosal blood flow by 5-HT is caused by the
decrease of systemic blood pressure and gastric vascular constriction but not by the
induction of platelet aggregation in vivo.

P6.3.21
CHOLINERGIC, PEPTIDERGIC AND SEROTONERGIC
INTERACTIONS ON LASER-DOPPLER BLOOD FLOW AND
SALIVARY SECRETION IN RAT PAROTID GLANDS.
E. Bobyock, W.S. Chernick and B.J. Rives, Dept. of
Pharmacology, Hahnemann University, Phila., PA 19102.

The intraarterial infusion of either acetylcholine (ACH, 10^-4M),
serotonin (5-HT, 10^-8M) and calcitonin gene-related peptide
(CGRP, 10^-7M) alone or in combination was administered at the
rate of 0.15mL/min for 20 min. Blood flow was measured by
laser-doppler shifts. Increased blood flow responses were
obtained with both 5-HT (10^-6M) and CGRP (10^-7M) as compared
with acetylcholine or serotonin alone. With respect to blood flow,