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| • 計畫中文名稱 | 興奮性胺基酸及其受體亞型對於胃之研究 |
| • 計畫英文名稱 | Studies of Excitatory Amino Acid and Receptor Subtypes on Stomach. |
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| • 研究人員 | 蔡麗雪 Tsai, Li-Hsueh |
| • 中文關鍵字 | L-型天門冬酸；黏膜血流；酸分泌；興奮胺基酸； 受體亞型；胃 |
| • 英文關鍵字 | L-aspartic acid；Mucosal blood flow；Acid secretion； Excitatory amino acid；Receptor subtype；Stomach |
| • 中文摘要 | 以合成酵素抗體,用免疫組織化學法證明含天門冬鹽的細胞在胃之存在。天門冬鹽類之免疫反應細胞存在於黏膜層深部,而環狀肌及放射狀肌較少。L-型天門冬鹽細胞在胃之黏膜層分布也被探討。在酸分泌方面,L-型天門冬酸 10/sup -6/M,在離體胃對於 Histamine 誘導之酸分泌有顯著的抑制作用,而對於 Oxotremorine 或 Gastrin 誘導之酸分泌沒有作用。當型天門冬酸抑制酸分泌時,對於黏膜血流也有有意義的減少。另一方面,L-型天門冬酸對於胃增加 cAMP 及 cGMP 之基礎分泌量。而 Histamine 也可增加基礎量。對於 Pentagastrin 或 Oxotremorine 則無此作用;又型天門冬酸抑制 Histamine 所引起的 cAMP.arru.量。L-型天門冬酸之受體亞型對於 Oxotremorine 誘導之酸分泌的抑制作用中,QA 是最強。再來爲 KA 及 NMDA。此作用可被 CNQX(爲一種非受體拮抗劑)來拮抗。 所有這些結果可知,含天門冬細胞是參與調節胃酸分泌,有抑制黏膜血流的作用,是經由 QA/KA 受體;可能是打開 Ca/sup 2+/管道同時有抑制誘導之 cAMP.arru.的作用。 |
| • 英文摘要 | The aspartic containing cells in rat stomach were localized with immunocytochemical methods using antibodies against its synthesizing enzyme, aspartate aminotransferase (AATase). The aspartate-like immunoreactive cells were formed in the deep of mucosa layer of stomach. The circular muscle and the longitudinal muscle were devoid of aspartic containing cells. The distribution of aspartic containing cells in both mucosa layer and muscle layer is heterogeneous within the stomach. The effect of L-aspartic acid (L-Asp) on gastric acid was investigated on an everted preparation of isolated rat stomach. L-Asp at 10/sup -6/M alone had no effect on acid secretion. It was found that the histamine---but not oxotremorine---or gastrin or stimulated acid secretion was markedly reduced by L-Asp at 10/sup -6/M. When L-Asp inhibited acid secretion, mucosal blood flow was significantly decreased. On the other hand, L-Asp increased basal levels of cAMP and cGMP in stomach slices. Histamine but not pentagastrin- or oxotremorine increased basal levels of cAMP in the stomach. L-Asp reversed histamine-induced increase in levels of cAMP. Among L-Asp rev-receptor agonists test, quisqualic acid (QA) is most potent, followed by kainic acid (KA) and N-methyl-D-aspartic acid (NMDA) inhibiting |

oxotremorine-stimulated acid secretion is blocked by 6-cycano-7-nitroquinoxaline-2,3-dione (CNQX), a specific non-NMDA receptor antagonist. All these results suggest that aspartic containing cells are involved in the modulation of gastric acid secretion and inhibit mucosal blood flow via ionotropic QA/KA receptors, probably through opening of Ca/sup 2+/ channels and reversing histamine-induced increase cAMP.