THE ENHANCEMENT OF THE SECRETORY EFFECT OF PANCREOZYMIN INDUCED BY ADDING RED BLOOD CELLS TO A MEDIUM PERFUSING THE ISOLATED RAT PANCREAS

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1) Experiments were carried out on perfused rat pancreata to study the influence of adding red blood cells to a perfusing medium on the secletory effect of pancreozymin (Pz).

2) When the isolated pancreas was perfused with standard Krebs-Henseleit solution, an amylase release due to continuous stimulation with Pz promptly increased and was followed markedly by gradual decline.

3) The addition of red blood cells to the perfusing medium (4%) caused the significant enhancement of the effect of Pz: the secretory response of the pancreas produced by Pz was enhanced to 2.6 times as much as the control response maintaining the enhanced level. The effect of Pz was reduced by the diminution of oxygen content of the perfusing medium, and the reduction of the effect was recovered by the reintroduction of oxygen to the perfusing medium.

4) It is thus concluded that the increase of the oxygen supply by adding red blood cells to the perfusing medium enhances the secretory effect of Pz. The importance of energy supply for the 'stimulus-secretion coupling' of the exocrine pancreas was discussed comparing with that of the adrenal medulla.

LOCATION OF N-ACETYL PEPTIDE IN MYOSIN MOLECULE

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On terminal amino acid in a myosin molecule, only traces of N-terminal amino acid have detected by the fluorodinitrobenzene method and the cyanate method. However, OFFER (1964, 1965) has clarified that myosin (molecular weight 6.0×10^5) has two or more blocked N-terminal amino acid residues having a sequence of N-acetyl-Ser-Ser-Asp-Ala-Asp. There arises the following questions: