to fragments, no such metabolic activity was found in bovine kidney fractions. It seems likely that the PTH receptor in bovine kidney is concerned primarily with mediating adenylyl cyclase activation.

6. FIBRINOGEN AND ALBUMIN CATABOLISM IN EXPERIMENTAL PANCREATITIS IN THE RAT

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A study of techniques for inducing acute pancreatitis in rats has shown that oil pancreatitis is the most consistent. All methods result in increased fibrinogen catabolism, which is in part due to disseminated intravascular coagulation and in part due to the inflammatory reaction in the pancreas. There is also increased albumin catabolism. Increased fibrin embolization to the lungs results in a picture of 'shock lung'. However, increased fibrinolysis, kallikrein activity and increased reticulo-endothelial activity may explain why there is little permanent fibrin deposition elsewhere. The kidneys develop a polyuric type of acute renal failure. The relevance of intravascular coagulation to shock and pancreatitis will be discussed.

7. THE MECHANISM OF THE NBT (NITROBLUE TETRAZOLIUM) TEST

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The NBT test has been developed as a non-specific indicator of bacterial infection. The means by which the NBT enters polymorphonuclear leucocytes (PMNs) is unknown although phagocytosis and altered membrane permeability have been postulated. It has also been suggested that complement and immunoglobulins are necessary for NBT reduction. In this study buffy coat preparations of whole blood were washed in Hanks' BSS and resuspended in Hanks' BSS or serum with or without the addition of fibrinogen and/or heparin. Serum to which fibrinogen was to be added was anticoagulated with EDTA (4 mg/ml). Both endotoxin stimulation and the presence of fibrinogen and/or heparin in the medium were necessary for NBT reduction by PMNs. A 0.1% solution of NBT was found to precipitate fibrinogen and heparin from solution and the NBT was not removed from this precipitate by dialysis. Washed precipitates could be substituted for NBT in solution and in the presence of PMNs stimulated by endotoxin in vitro or injection in vivo, particles of reduced NBT were found to be present in the PMNs in a form indistinguishable from those found in the standard NBT test.

It is concluded that in the NBT test the dye enters the PMN in particulate form as a macromolecular complex either with fibrinogen where EDTA is used as anticoagulant or with heparin where this acts as anticoagulant and that the cell must be activated to phagocytic activity by infection in vivo, or in this study, by endotoxin in vitro. Neither complement nor soluble immunoglobulins need be present.

8. DOUBLE BLIND TRIAL OF PREDNISONE, IN LOW DOSE, IN PATIENTS WITH CHRONIC AIRWAYS OBSTRUCTION

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Ten men with chronic airways obstruction took part in a double-blind controlled cross-over trial of 5 mg prednisone, daily for a week, versus placebo.

All patients had breathlessness as their main complaint, and chronic cough with sputum for 2–30 years; five had evidence of emphysema on the chest X-ray film. None had a personal or family history suggestive of asthma. For the group, mean forced expiratory volume in one second was 1.11 litres, and mean forced vital capacity was 2.28 litres. Six patients had abnormally high levels of arteria1 $P_{co2}$ (46–52 mmHg).

When the 'placebo' and 'prednisone' measurements were compared, there was no significant change in forced expiratory volumes, bronchodilator effect on forced expiratory volumes, or blood gas tensions. There was a significant increase in inspiratory airways resistance measured by body plethysmography from a mean of 3.19 (placebo) to 4.24 cmH$_2$O per l/s (prednisone). Two subjects had large increases of 2.9 and 3.6 cmH$_2$O per l/s respectively, but no particular characteristics otherwise distinguished them from the group as a whole.

9. EFFECT OF LUNG VOLUME ON THE VENTILATORY RESPONSE TO CARBON DIOXIDE DURING RESISTIVE LOADING

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An increase in work of breathing due to external flow resistive loading leads to a reduction in the ventilatory response to $CO_2$, while an increased work of breathing due to external elastic loading does not. The discrepancy between the effects of resistive and elastic loading has not been adequately elucidated. Since the end-expiratory level is increased with resistive loading but not with elastic loading, it is possible that the discrepancy between the two modes of increasing the work of breathing is related to the difference in lung volume resulting from the two loads.