

pyruvate oxidation.

Summary. Suspensions of mitochondria of various transplanted mouse tumors are able to oxidize pyruvic acid if the system, containing Mg ions, ATP, cytochrome C, and priming concentrations of fumarate, is fortified with diphosphopyridine nucleotide. The concentration of the nucleotide required for

maximal activation is 0.002M. When mitochondria of tumors were compared with those of normal tissues it was found that on a per mg nitrogen basis pyruvate oxidation was similar in magnitude in both types of mitochondria.

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Metabolism of Plasma Substitutes II. Oxypolygelatin (OPG) (19090)

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The use of gelatin solutions as substitutes for plasma have long been investigated(1,2). Although gelatin appears to fill the requirements for a practical plasma expander, the main difficulty lies in its high gel point. Recently, Campbell and co-workers(3) have developed a modified gelatin, oxypolygelatin, (OPG) which appears to overcome this particular fault.

This paper is a report of the studies on the metabolism of this new plasma expander. Changes in the urinary dextrose to non-protein nitrogen ratio (D/N) of the phlorizinized, starved dog were used as an index of metabolism of OPG. The details of these experiments have been reported in the first paper of this series(4). The results are summarized in Table I. In each case, during the 24-hour period following the infusion of 200 ml OPG in physiologic saline, we have a marked increase in the D/N ratio, well

TABLE I. Changes in D/N Ratio After Infusion of 200 ml of 5% Solution of OPG in Physiological Saline.

Dog No.	Pre-infusion avg	Range	0-24 hr post-infusion D/N
1	1.39	1.23-1.69	2.4
3	2.76	2.17-3.75	4.42
6	2.27	2.17-2.30	3.34
48	3.47	3.30-3.91	5.29

beyond the limits of the pre-infusion spread.

Since the phlorizinized starved dog stabilizes at a constant D/N ratio, a change in this value reflects changes in the glucose or nitrogen metabolism. Because phlorizin acts by preventing the reabsorption of glucose by the tubules, an increase in D/N ratio indicates an increase in the excreted glucose relative to the excreted nitrogen. As was pointed out in the previous discussion(4), it is felt that glycogen can be ruled out as a source of the increased glucose as can the plasma proteins. Therefore, the highly probable possibility left which might cause this rise in the D/N ratio is the metabolism of OPG to glucose.

Summary. Evidence is presented to show the metabolism of OPG to glucose by the phlorizinized starved dog.

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