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Remote results of the replantation of the spleen.

By **ALEXIS CARREL.**

On February 24, 1908, the spleen of a large dog was extirpated, then replanted and the circulation reestablished after an interruption of forty-four minutes. On June 21, 1909, the abdomen was reopened and the spleen found normal. The dog was in excellent health. On November 1, 1909, the animal died at the farm. The spleen was normal from a microscopical and macroscopical standpoint. The anastomoses of the vessels were almost invisible.

This experiment shows that a spleen extirpated and replanted remains in normal condition for more than twenty months after the operation.

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The mechanism of the depressor action of dog's urine with some observations on the antagonistic action of adrenalin.

By **RICHARD M. PEARCE** and **ARTHUR B. EISENBREY.**

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Summary. — The intravenous injections of dog's urine into the dog causes an abrupt but transient lowering of blood pressure, varying from 20 to 90 mm. Hg (usually 40 to 70), not accompanied by disturbance of heart action and with little respiratory disturbance. Section of the spinal cord, vagi, cervical sympathetic and splanchnic nerves and destruction of coeliac ganglia and solar plexus individually or collectively does not abolish the depressor action. Physiological and pharmacological experiments based on Dixon's studies of the action of apocodeine show that when the nerve endings are so paralyzed by apocodeine that adrenalin causes little or no reaction, the urine also has no effect. Likewise, in normal animals, and in those with central vaso-motor influence eliminated, the action of urine is antagonistic to that of adrenalin and barium and during the increased pressure due to electrical stimu-

lation of the nerves of the splanchnic area, the urine causes a fall in pressure.

From these observations it is concluded that the urine lowers pressure through its paralyzing effect on the endings of the vaso-motor nerves.

Dog's urine in doses of three cubic centimeters given intravenously may be used in physiological and pharmacological experiments to produce an abrupt and marked but transient fall in pressure with no secondary effect, in the same way that adrenalin is used to produce a corresponding rise in pressure.

The physiological antagonism between urine and adrenalin, which evidently act on the same anatomical structures, suggests the possibility that the depressor substance of urine represents a body which previous to its elimination may have a regulatory influence on the circulation directly opposed to that of the secretion of the adrenal gland.

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On the elimination of bacteria from the blood through the wall of the intestine.

By **ALFRED F. HESS, M.D.**

Last year in a paper presented before this Society on, "Antiperistalsis in its relation to tubercle bacilli and other bacteria in the alimentary tract," I noted that bacteria which are injected into the blood current of rabbits could be recovered by culture from the contents of the small intestine. Since then I have followed this problem further, investigating the path by which the bacteria enter the alimentary tract, and, although the work is not completed, I have arrived at certain definite conclusions.

It has been shown by previous workers that some soluble poisons, notably morphine and snake venom, are excreted from the blood through the stomach. It has likewise been demonstrated that various salts, mainly soluble salts, such as strontium or lithium chloride, may be found in the intestine following intravenous injection. It is most probable that the authors of these experiments are correct in deducing that these salts have traversed the wall of the intestine; however, it should be noted, that in none of these