

vomiting, lasting twenty four to forty eight hours. The case was reported by us to the Association of American Physicians, May 12. A study of the urinary nitrogen was made November 6 to December 2, '07, and April 7 to May 5, '08, embracing three attacks during the first period and two during the second. Urea and ammonia nitrogen did not vary beyond normal limits. The chief interest centered in the uric acid and creatinin output. During the latter part of the first period the uric acid, on a uniform purin-free diet of 2,350 calories for a girl of 47.3 kilos, showed a distinct fall before the last attack, with a subsequent rise. During the second period the patient was kept on a creatin and purin-free diet unrestricted as to quantity, the amounts of creatinin and uric acid rising sharply after each attack, the latter showing a fall before the attack. Throughout the whole period the uric acid showed as wide variations as Kaufman and Mohr, and von Noorden and Schliep, described in the subjects of true gout. A test of her tolerance for exogenous purins, however, showed that her elimination of uric acid after eating 580 grams of beef was even higher than Burian and Schur's normal figure of 50 per cent. The creatinin was also wholly eliminated. Comparison of the eliminations during these two days with those in the urine after the attacks shows that, in the latter urines, she excreted as much additional uric acid and creatinin as might be derived from 580 grams of beef, with a nitrogen loss of 10 grams after the first attack and 13 grams after the second. The increased nitrogen output on the two meat days over the previous average was about 9 grams. The increase in the uric acid and creatinin, therefore, would seem to correspond closely with the amount of toxic tissue destruction that occurred in these short paroxysms of fever.

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Histological changes in transplanted blood vessels.

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Communicated by Francis Carter Wood.

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It has been shown by many experimenters that segments of blood vessels may be transplanted to other vessels, in animals

either of the same or of different species, and continue, for a certain period of time at least, to fulfil all physiological requirements. Various changes may be noted in the gross appearances of the transplanted segments, depending on the vessel transplanted, the site of transplantation, and the animal into which the implantation takes place, whether of the same or different species, closely or distantly related.

A segment of a rabbit's aorta was placed in the carotid of a dog, by the Carrel method of suture, and removed at the end of seventy days. The mechanical function of the vessel was perfect. The lumen was moderately dilated, and the walls slightly thinned. Upon microscopical examination, however, the normal structure of the transplanted segment had almost entirely disappeared. The intima had disappeared, being replaced by a layer of hyalin fibrin and blood; the muscular elements had either disappeared or been greatly reduced in number, while the various layers had been the seat of many fine hemorrhages, which showed as small masses of hyalin fibrin into which new connective tissue had penetrated. New fibrous tissue had replaced the whole structure of the vessel wall to a marked degree. The striking change, however, was the absolute disappearance of all the elastic tissue in the transplanted segment. Sections stained by Weigert's elastic tissue stain showed no elastic tissue in the piece of rabbit's aorta, while that in the carotid of the canine host was normal and ran up to the line of suture, where it stopped abruptly.

The entire disappearance of elastic tissue has not been observed in segments transplanted from one animal to another of the same species. A segment of a dog's aorta implanted in the aorta of a second dog, and examined at the end of seventy days, shows a very slight and scarcely appreciable diminution in the amount of elastic tissue in the transplanted segment, the slight loss being in the finer fibrils. There is no regeneration of elastic tissue, as there is a well defined wedge of connective tissue, without elastic elements, between the sutured ends of the cut vessels. The muscular and connective tissue layers are well preserved; the endothelium is missing in some places.

The more widely separated the species of animals used, the more rapid and complete is the disappearance of the elastic tissue.

Sections of a cat's aorta placed in the carotid of a dog, showed at the end of twenty days a very slight loss of elastic tissue, with the beginning of a break down of the individual muscle fibers, and proliferation of new fibrous connective tissue.

These observations of the behavior of the elastic tissue add weight to the general proposition that the cells of vessels transplanted from one animal to another of a different species do not actually survive, but are gradually broken down and absorbed, this process usually being slow enough to allow of sufficient new fibrous connective tissue formation (probably by the tissues of the host) to permit the function of the vessel to be maintained for a considerable period of time at least. The ultimate fate of such transplanted segments can be determined only by more protracted experiments.

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**Note upon the supposed presence of a gastric hormon
in the salivary glands.**

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There was published in the Proceedings of this Society in June of last year¹ a statement of the results of clinical and experimental observations upon the influence of the salivary glands on the secretion of normal gastric juice. It was stated that in four cases of Mikulicz's disease, uncomplicated, no gastric juice was secreted during the disease. The experimentally analogous condition brought about by removal of all the salivary glands in dogs also gave the same result, namely, a permanent stoppage of the normal gastric secretion. It was stated that when food, insalivated by other healthy dogs, was given to such animals no flow of gastric juice followed. If, however, extracts made of salivary glands from normal dogs, were injected, either intravenously or intraperitoneally, a temporary resumption of gastric secretion occurred after, as well as before, section of all extrinsic nerves to the stomach. The author, as the result of these observations, concluded that the normal gastric secretion depends in part upon an internal secretion of the salivary glands.

¹ Hemmeter: This Journal, 1907, iv, p. 153.