of gastric juice it was found that this substance belongs to the group of nitrogenous bases not precipitable by lead acetate in acid, neutral or slightly alkaline medium, but precipitable by an excess of phosphotungstic acid in acid medium (5% sulphuric acid). On fractionation by the silver-baryta method all the anti-neuritic activity was recovered in the silver precipitate obtained at pH between 5.5 and 7.0. The activity of the concentrate prepared from this silver fraction by extraction with a slight excess of hydrochloric acid corresponded to 75 to 200 cc. of gastric juice as curative day doses for pigeons. This amount of the fraction contained from 0.15 to 0.4 mg. nitrogen. The chemical properties and the mode of action of the concentrates studied strongly suggest that the active principle is vitamin B_1. Therefore vitamin B_1 should be regarded as a normal constituent of canine gastric juice.

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Haemodynamic Effects of Extracts from Traumatized Limbs.

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Two theories have recently received most attention as to the etiology of traumatic shock. These are (1) the absorption of metabolic toxins from the traumatized area (Cannon[1]) and (2) the local loss of blood and/or plasma (Blalock,[2] Phemister[3]) The work of various investigators showing certain tissue extracts to be circulatory depressants has frequently been cited in favor of the "toxic theory". The fact has been largely overlooked, however, that one may obtain both pressor and depressor substances from most tissues, and that either type may predominate according to the method of extraction (Collip[4]).

The present experiments are upon the effects on the blood pressure of extracts from traumatized limbs obtained by an hydraulic press. This method of extraction probably does not alter the proportions of the various hemodynamic substances present in the tissue.

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[1] Cannon, W. B., Traumatic Shock, 1923.

[2] Blalock, A., *Arch. Surg.*, 1930, **20**, 959.

[3] Parsons, E., and Phemister, D. B., *Surg. Gynecol. and Obst.*, 1930, **51**, 196. Roome, N. W., Keith, W. S., and Phemister, D. B., *Ibid.*, 1933, **56**, 161.

[4] Collip, J. B., *J. Physiol.*, 1928, **66**, 416.

Twelve experiments were performed on dogs as follows: One animal was anesthetized, and one hind leg traumatized repeatedly by means of a padded hammer until the arterial blood pressure remained at a low level, usually 60 to 86 mm. Hg. The periods of traumatization (2-3 minutes) were interspersed with 10 minute periods for observation of the arterial blood pressure level. In no case did the traumatization break bones or rupture the skin. This leg was then amputated, skinned, and the muscles minced and extracted in an hydraulic press at a pressure of 375 kg./cm^2. A considerable amount of bloody fluid ran off during the dissection of the leg; this was given to the animal along with the muscle extract in 5 cases, and separately in 7 cases. In all cases the extract was administered to a second animal by means of an Anrep viviperfusion flask to prevent alteration of the circulation volume of the recipient. It was also found necessary to centrifuge the extract to remove fat, and to heparinize the recipient animal, to prevent intravascular clotting.

It was found that perfusion of the total extract from the traumatized limbs invariably caused a slight transient rise of the blood pressure of 8 to 26 mm./Hg. in 5 cases. Administration of the bloody fluid portion alone produced rises of the blood pressure of 7 to 17 mm./Hg. in 4 of 7 cases, while the extract of muscles alone caused transient falls of 5 to 41 mm./Hg. in 5 of 7 cases. Recovery of the blood pressure was very prompt in all cases in which a fall occurred.

It was concluded that: (1) Centrifuged extracts of traumatized limbs obtained by a hydraulic press caused no depression when perfused as a whole in a second animal, but instead caused rises of the blood pressure. (2) Similar extracts of the traumatized muscles alone were slightly toxic, but did not cause a sustained blood pressure fall nor death in any case. (3) The findings fail to support the "toxic theory" of the etiology of traumatic shock.