

stomach is then passed into the "Oncometer," short segments of rubber tubing serving to make an air tight seal between the cannulae and the "Oncometer." From the side tube of the latter a rubber tube leads to a delicate tambour which records both peristaltic waves and tone changes. Perfusion of the lumen of the stomach is effected from a constant pressure tank in which the nature of the fluid can be easily altered. The optimum height of the tank is about

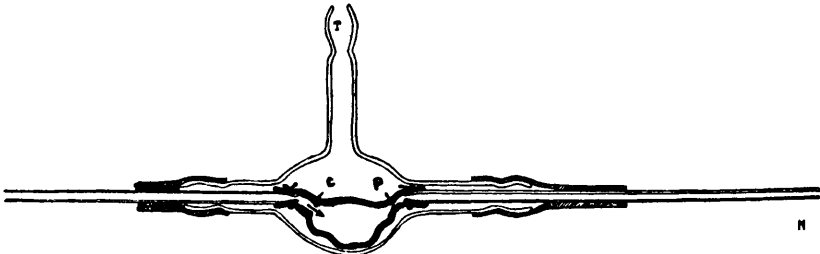


Fig. 1—Shows method of enclosing stomach in air-tight chamber. C=Cardia, P=pyloric valve. T=connection to tambour.

15 cm., the flow ceasing at a height of 8 to 9 cm. A flutter valve is placed between the pressure tank and the stomach to prevent back flow, when peristaltic waves press against a closed pylorus or during antiperistalsis. The operation of the pyloric valve is recorded by placing a drop-counter beneath the tip of the outflow cannula.

The method has the advantages of freedom from indwelling balloons or other similar interferences, and permits direct observations, especially by the aid of a reading glass, at all times.

The feasibility of such an arrangement for the demonstration of normal functions of the stomach and also of the influence of drugs is apparent. A report on such is in preparation.

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Increase of Blood Platelets in Rabbits by a Specific Bacterial Infection.

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In the course of an experiment on rabbits in which the effect of splenectomy upon blood platelets was being studied, a peculiar caseous necrosis about the site of operation was encountered in one

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TABLE I.

Rabbit	Mode of inoculation	Result	Pathological changes	Platelets		Percentage of spindle forms		Leucocytes	
				Average normal	Maximum	Average normal	Maximum	Average normal	Maximum
No. 22 brown 1641 g.	Intraven. and subcut.	Died spontaneously	Caseous pneumonia; caseous necrosis at site of subcutaneous injection.	980,000	1,757,000	3	13		8,450
No. 23 albino 2179 g.	Intraperit. subcut. intramusc.	Recovered		1,185,000	2,400,000	5	13	9,200	15,000
No. 24 albino	Subcut. and intramusc.	Died spontaneously	Caseous pneumonia; extensive caseous necrosis at site of injection	662,000	1,739,000	4	12		
No. 25 albino 2547 g.	Subcut. and intramusc.	Recovered		1,171,000	1,459,000	4	10.2	8,760	10,450
No. 26 black and white 2377 g.	Subcut. and intramusc.	Died spontaneously	Caseous pneumonia; caseous necrosis at site of injection; accidental infection of pleura and pericardium (pneumococcus)	1,112,000	1,680,000	8.5	15.5	4,800	35,000
No. 27 black 2352 g.	Subcut. and intramusc.	Recovered; autopsied on 15th day	Extensive caseous necrosis at site of injection	580,000	1,965,000	2.5	12	8,500	23,000

of the animals. This was found to be due to an infection with a motile, Gram-negative bacillus. From the studies made on the bacillus so far, it can with certainty be excluded from the Salmonella group; moreover it cannot be identified with any of the human pathogenes. Further studies are in progress and will be reported upon later. Because of an unusual increase in number of blood platelets in the infected animal, six healthy rabbits were inoculated with the cultured micro-organisms and the effect upon platelets observed.

Results. The accompanying Table I shows the change in number of platelets and leucocytes in these six animals and indicates the pathological changes in the four which were examined post mortem. The greatest increase in platelets in any one animal was 3.4 times its normal, while the greatest so far obtained with ultra-violet light is 2.3 times. The greatest increase in three splenectomized rabbits was 2.5 times the normal.

The maximum leucocyte number found in the uncomplicated cases was 23,000, which was observed in Rabbit 27. Of this number about 65 per cent were small lymphocytes, whereas in Rabbit 26, which developed an accidental pyogenic infection, over 70 per cent of the 35,000 leucocytes were polymorphonuclears.

It was noted in a previous communication on the influence of ultra-violet light upon the blood platelets¹ that the small, spindle-shaped platelets were greatly increased during the so-called platelet crisis, *i. e.*, at the height of the platelet increase. Differential counts have been made in these experiments also, and the spindle forms consistently showed a relative increase at the time of the increased platelet number, especially at the height of the increase. The number in the normal is usually below 5 per cent of the total, and rises during the platelet crisis to 10 to 15 per cent. If the assumption is correct that these slender, spindle-shaped platelets represent young or immature forms, it may be concluded that the increase is due to increased production rather than to diminished destruction, as is assumed to be the case in splenectomy² and as might be assumed in an infection on the basis of a blocking of the reticulo-endothelial cells by the invading bacteria. The erythrocytes showed no constant alteration in number in these experiments.

This is a preliminary report.

¹ Gunn, F. D., *PROC. SOC. EXP. BIOL. AND MED.*, 1926, **xxiv**, 120-123.

² Bedson, S. P., *Lancet*, 1924, **ii**, 1117.