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Common Bile Duct Obstruction and Anaphylaxis.

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We have elsewhere reported that blockade of the reticulo-endothelial system with India ink or saccharated iron oxide does not materially modify anaphylactic shock in the dog. In the preceding paper we have shown that the hyperbilirubinemia resulting from injections of bilirubin leads to a retention of bromsulphalein. Klein and Levinson[1] and more recently Mills and Dragstedt[2] have reported studies indicating that reticulo-endothelial blockade causes a retention of bromsulphalein. Interpreting the dye retention from a hyperbilirubinemia as a form of physiological blockade of the reticulo-endothelial system it seemed worth while to repeat our anaphylactic studies on jaundiced animals. Theoretically at least, the blockade occurring in dogs with obstructive jaundice should be more complete than that produced with foreign materials as it is constant and progressive.

Anaphylactic shock was induced in 8 horse serum sensitized dogs in which the common bile duct had been obstructed. In one animal the obstruction preceded the sensitization, in the remainder the operation was done after the sensitization and at varying intervals before the test or assaulting injection of serum. Dye retention tests and determinations of the plasma levels of bilirubin were made just prior to the assaulting dose. For this the animals were anesthetized with ether and sodium barbital and the degree of shock evaluated by the blood pressure records as previously described.[3] The essential data are shown in the accompanying table.

Severe to fatal reactions occurred in all but one animal. This animal was in poor condition and the blood pressure was extremely low before the horse serum was injected. No additional effect was produced. In 2 animals the shock was somewhat slower in developing than is usually the case. There is therefore no evidence of any mitigating effect on anaphylactic shock. Actually the per-

* Frederick Robert Zeit Fellow in Pathology.

1 Klein, R., and Levinson, S. A., PROC. SOC. EXP. BIOL. AND MED., 1933, **31**, 179.

2 Mills, M. A., and Dragstedt, C. A., PROC. SOC. EXP. BIOL. AND MED., 1936, **34**, 228.

3 Dragstedt, C. A., and Gebauer-Fuelnegg, E., *Am. J. Physiol.*, 1932, **102**, 512.

TABLE I.
Anaphylactic Shock in Dogs with Obstructive Jaundice.

Exp. No.	Sensitization period days	Obstructed days	Plasma Bilirubin mg. per 100 cc.	Bromsulphalein test 5 min. %	Bromsulphalein test 30 min. %	Degree Shock	Remarks
203	33	4	2.57	60	40	+++	Slow development
204	35	6	5.70	60	40	0	Bl. pr. at shock level before injection of serum
205	14	2	1.0	—	—	++++	
206	17	5	14.4	80	60	++++	
207	33	7	4.09	80	50	++++	Slow development
210	17	8	14.0	60	45	+++	
212	21	12	11.7	—	—	++++	
213	12	14	18.0	80	50	++++	

centage of fatal reactions obtained is higher than that occurring in a large series of normal animals. In this connection it is interesting to note that Ravdin[4] has reported that there is an increased content of histamine in the livers of dogs after common duct obstruction, in view of our general hypothesis that histamine is the causative agent of the vascular reaction and death in anaphylactic shock. If the bilirubinemia produced by common duct obstruction may be interpreted as producing a reticulo-endothelial blockade, these results then confirm our observations in blockade produced by other agents.

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Blood-CNS Barrier in Experimental Poliomyelitis.*

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A selective mechanism regulating the exchange of substances between the blood and the central nervous system, and usually referred to as the hemato-encephalic or blood-brain barrier, has long been known to exist. McIntosh and Fildes[1] showed that after intravenous injection of salvarsan no arsenic could be found in

4 Ravdin, I. S., *Arch. Surg.*, 1929, **18**, 2191.

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1 McIntosh, J., and Fildes, P., *Proc. Roy. Soc.*, B, 1914, **88**, 320.