ly encountered in the blood of rabbits that had carried progressively enlarging growths for periods of several weeks (18 rabbits). It was not present in the blood of normal animals (22 rabbits), in that of rabbits recovering from vaccinia, virus-induced fibromatosis, or experimental syphilis (15 rabbits), nor in that of rabbits carrying transplanted cancers of other types. It can be readily differentiated from the natural antibody, which is also present in the blood of normal adult rabbits, both by its specific affinity for the V2 carcinoma antigen and by the fact that it is unaffected by heating at 65°C for 30 minutes, a procedure that inactivates the natural antibody.[4]

The antibody that reacts with extracts of the V2 carcinoma is not the same as that reacting with the papilloma virus, though the 2 occur together in the same sera, often in high titer. Both are heat-resistant, but they can be readily discriminated by their differing affinities. The V2 antibody reacts with extracts of the V2 carcinoma but not with purified suspensions of the papilloma virus, while the antiviral antibody reacts with the virus (and can be selectively absorbed thereby) as not with extracts of the V2 carcinoma.

The experiments have disclosed 3 distinct types of antibodies in the blood of rabbits carrying the V2 carcinoma. Similar studies have been undertaken with other transplanted cancers.

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Excretion of Sulfanilylguanidine in Material Drained from Human Biliary Tract.

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Recently a new sulfonamide drug, sulfanilylguanidine, has been developed and studied by Marshall and various other workers.[1] Although the solubility of this drug is not markedly different from that of various related compounds, it appears to be absorbed rather slowly from the gastro-intestinal tract. Because in recent studies of the excretion of various dyes by the liver it has been found that marked differences in excretion occur which cannot at present be

[4] Kidd, J. G., and Friedewald, W. F., PROC. SOC. EXP. BIOL. AND MED., 1941, **47**, 128.

[1] Marshall, E. K., Jr., Bratton, A. C., White, H. J., and Litchfield, J. T., Jr., *Johns Hopkins Med. Bull.*, 1940, **67**, 163.

TABLE I.
Sulfanilylguanidine in Blood Bile and Urine.

	Time	Blood, mg/100 cc	Bile, mg/100 cc	Urine, mg
Case I	6 A.M.	—	.0*	—
	8 "	1.2	—	—
	10 "	—	.5	2.6
	12 M.	1.8	—	—
	2 P.M.	—	.7	17.7
	4 "	1.0	—	—
Case II	10 A.M.	0.3	.0*	—
	2 P.M.	0.5	.2	—
	4 "	—	.1	—
	6 "	0.2	—	52.0†

2 g sulfanilylguanidine ingested at 6 A.M. by each patient.
*Less than 0.1 mg/100 cc.
†12-hour sample of urine.

correlated in a satisfactory manner with either solubility or diffusibility of the dyes,[2] it seemed possible that the apparent failure of absorption of sulfanilylguanidine might be really due to a removal of the drug from the blood stream by the liver, and a return of the material to the gastro-intestinal tract in the bile flowing through the biliary ducts. At about the time when a supply of sulfanilylguanidine became available for experimental purposes 2 patients were operated on for lesions of the biliary tract, and T tubes inserted into the ducts to provide post-operative drainage. It was decided to study the excretion of sulfanilylguanidine through the bile ducts of these patients. Two grams of sulfanilylguanidine were therefore given to each, and its concentration in the blood, urine and bile determined. The methods previously described[3] were found to be quantitatively applicable to the study of sulfanilylguanidine and were used in these experiments. The results are given in Table I. One of the patients showed a moderate, and the other a minimal concentration of the drug in the blood. It is evident that in neither instance was there any evidence that unusually great concentrations of sulfanilylguanidine occurred in the bile. The ratio between the concentrations in blood and bile were essentially similar to those found in the previous study of sulfapyridine. The thesis that the apparent failure of absorption of sulfanilylguanidine resulted in part from a marked reëxcretion of the drug into the intestine therefore proved incorrect.

[2] Haber, R., *J. Gen. Physiol.*, 1940, **23**, 185.

[3] Hubbard, R. S., and Butsch, W. L., PROC. SOC. EXP. BIOL. AND MED., 1940, **46**, 484.