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imal part of this also having failed. But the distal part, which bore several typical Plymouth Rock down feathers, was thoroughly healed in and apparently entirely normal. In the light of previous results from skin grafting there seems no reason to suppose that this part of the graft would not have persisted as long as the host might live.

This lone experiment is of interest (a) in showing incidentally that tissues of a defective embryo may, under favorable conditions, far outlive the life expectancy of the embryo itself; (b) in confirming the observation that at the time the first down follicles are forming, or even before (at the age of 7 days, 3 hours in this case), the skin appears to have already acquired some of its definitive potentialities; and, especially, (c) in indicating the possibility of bridging the gap between the periods before and after hatching in such a way as to make it seem feasible to study the behavior of feather follicles in foreign environments from the time they are first formed in embryonic skin through to adult life.

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A Method for the Exclusion of Liver Function.

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When the patency of the common bile duct is destroyed, as by a stricture, or by the pressure of an inoperable tumor of the head of the pancreas, the surgeon is confronted with an operation of necessity; an exit must be provided for the bile. Various procedures have been suggested, and are applicable according to the actual conditions found in the given case. The most usual procedure is the operation of cholecystenterostomy—a direct anastomosis between the gall bladder and some portion of the digestive tube.

This is a life saving procedure, easily carried out, with quite satisfactory results. Perhaps the only objection is that the pressure within the digestive tube is greater than the pressure in the gall bladder, with the consequence that the intestinal content is forced into the biliary system, with sometimes a final result of dilatation and general cholangitis.

This untoward final result of the accepted operative procedure led to the following: The intestine is sectioned at some suitable

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Blood	Normal	Duct Tied	Duct not tied
Cholesterol	160	278.3	175.5
Urea No	12	20.7	12.0
Chlorides	590	438.0	538.2
Sugar	99	80.1	100.0
Calcium	9	14.0	10.0
Uric Acid	trace or 0	2.8	0.0
Icteric Index	2-3	12.0	2-3
Van den Bergh	neg.	direct. prompt	neg.
Bile Salts	normal	50-100% increase	normal
Spectroscopic exam. of	Slight bile pig-	Increased bile pig-	Slight bile pig-
blood serum	ment	ment	ment
Urine			
Bile pigment	0	++ 2nd day	0
Urobilinogen	0	0	0
Amino acids	Trace	Increased	0
Spectroscopic	Neg.	Bile pigment	0

TABLE I.

point, and the distal end united to the gall bladder by an end-to-end anastomosis (A) with the fundus of the gall bladder. The continuity of the digestive tube is now restored by a suitable end-to-side anastomosis of the proximal end of the tube to the side of the intestine at a point 7 or 8 inches below the end-to-end union between gall bladder and distal intestine (B). The purpose of this procedure is to interpose between the gall bladder and the stream of intestinal content a segment of intestine in which the direction of normal peristaltic activity would act as a one-way valve, tending to prevent the entry of intestinal content into the gall bladder.

The operation is not difficult, offering, neither in complication of procedure nor in time required, any explanation of the curious result. In a large series of experiments, all the animals have died within 48 hours, with the symptoms of an acute liver insufficiency, provided the common duct is doubly ligated, and cut between the ligations—as would be done naturally in an experiment designed to duplicate the clinical conditions for which the procedure is suggested. If the common duct is not ligated, the animal does not die.

It is not proposed to discuss the possible reasons for the results. The experiments of Werelius¹ are of importance. This report is presented since the method seems to offer a means of excluding certain liver functions, without the profound disturbance of other functions connected with the liver, such as glycolysis, which appears when the liver is extirpated.

The effect upon the blood chemistry is best shown in the appended table.

¹ Werelius, A., J. Am. Med. Assn., 1916, lxxix, 535.