TABLE I.

Female dog, 19.5 kg pentobarbital Na 30 mg/kg. Right kidney denervated; vagi cut. No. of glomeruli, left 231600, right 177900. UV urine volume, UCl urine chloride, C_{cr} creatinine clearance, C_{pah} p-aminohippurate clearance, TM_g glucose tubular maximum, RR renal resistance, AP_m divided by renal blood flow, AP_m, mean arterial pressure from planimetry of Hg manometer tracing.

UV, ml/min.		UCl, μEq/min.		C_{cr}, ml/min.		C_{pah}, ml/min.		TM_g, mg/min.		RR		AP_m, MM Hg	Procedure
Inn.	Den.	Inn.	Den.	Inn.	Den.	Inn.	Den.	Inn.	Den.	Inn.	Den.		
2.9	1.6	60	43	27.9	14.2	182	129	48	40	34	48	154	c*
3.1	1.5	50	25	26.9	12.4	204	124	45	35	31	51	156	c
3.5	1.5	59	15	24.9	10.6	198	122	39	32	37	59	171	c
4.0	1.3	67	16	25.8	10.6	188	120	50	39	35	55	158	25 mm Hg†
4.7	1.3	87	12	30.7	12.1	199	116	85	54	31	53	160	31

* c = control. † Pressure resp.

thesia, but positive pressure respiration caused partial restoration. Since both kidneys participated, the mechanism must be independent of the renal nerves.

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Prophylactic Penicillin in Anterior Ocular Transplantation Technic in Mice.*† (20138)

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The animal anterior ocular chamber offers an unusual opportunity to study the behavior of transplanted tissue in that the progress of the graft may be easily observed, and several animals may be used in the same case, with sacrifice at different ages, microscopic studies, and retransfer. A vast field for clinical application of this technic was opened by Greene(1) when he grew human sarcomas and carcinomas in the anterior ocular chambers of foreign species. So as to obviate the ever present risk of extraneous infection, there is need to improve technics in dealing with such implanted tissue. Investigators rarely report one hundred percent incidence of tissue revascularization in anterior chamber transplants. Although it is true that many problems are involved, a major factor preventing successful transfer is infection, arising either from originally contaminated tissue or from contamination of the operative site at the time of transfer. Penetration of penicillin into the eyes of dogs(2) and rabbits(3) has been measured by several investigators. Prophylactic penicillin was used systemically (4) in the anterior chamber transplantation of ovarian tissue in rabbits, however, controls were not used.

The purpose of this investigation is to evaluate the effectiveness of systemic penicillin in lowering the infection incidence in the anterior chamber technic of tissue grafting, utilizing the mouse eye.

Materials and methods. Three hundred and eighty-five, white Swiss, C3H and hybrid

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TABLE I. Lung Tissue Transplants.

Group	Infected	Non-infected
A. Penicillin	66	31
B. Untreated	62	33

TABLE II. Corneo-scleral Incisions.

Group	Infected	Non-infected
C. Penicillin	42	53
D. Untreated	45	53

(C3H X white Swiss) were used. The mice were kept in clean glass jars and fed mice food pellets and water *ad libitum*. The animals were divided into 4 groups: Group a) received anterior chamber grafts with systemic penicillin; group b) received anterior chamber grafts without penicillin; group c) were prepared by making corneo-scleral incisions into the anterior chamber while penicillin was given systemically; and group d) received corneo-scleral incisions without penicillin. Corneo-scleral incisions were made in all animals with a Deutschmann cataract knife. In the group with anterior chamber transplants, fragments of lung tissue from newborn to 6-day-old mice were used as graft material. This tissue was placed into a blunt, beveled, 20-gauge intravenous needle and then injected into the anterior ocular chambers of chloroformed mice, in the manner described by Greene(5). Strict asepsis was maintained in the technic. In those mice receiving antibiotic therapy, penicillin G was given in arbitrary amounts of 5,000 units per day intraperitoneally for 3 days beginning on the day of the transplantation or incision of the eye. All of the eyes were enucleated eight days after the operation, fixed in formalin, embedded in paraffin, cut at 7 μ, stained with hematoxylin and eosin and examined microscopically.

Discussion. The inflammatory reactions within the histological sections of the mouse eyes varied from a limited, chronic, inflammatory response about the incision area to a severe panophthalmitis; however, only the absence of all inflammatory reaction was accepted as evidence of lack of infection. Penicillin was ineffective in lowering the incidence of inflammation, both in the group of mice prepared only with incisions into the anterior chamber and in the mice receiving transplants. Several explanations may be presented for the apparent failure of the penicillin. Primarily, the criteria for "non-infected" were quite rigid. It is conceivable that some degree of inflammatory response would be present even in the absence of infection. It should be stressed that the very size of the graft used in the mouse eye necessitates more manipulation than does the graft used in larger animals. It was assumed that the total therapeutic dose of penicillin was approximately 100 μ/cc of aqueous humor, *i.e.*, 1000 μ/g of recipient mouse). There was, however, a quantitative degree of difference between the treated and untreated groups. Somewhat less severe inflammatory response was present in the eyes of the mice receiving penicillin therapy. This may be an indication that there was some suppression of the infection by the penicillin. The incidence of vascularization of the lung transplants was not evaluated since serial sections of the eyes would be necessary in order to visualize all of the graft tissue. Suffice to say that a number of grafts became revascularized, while others regressed.

Summary. Of 192 mice with anterior chamber implants of newborn mouse lung, 97 were treated with systemic penicillin. An additional 193 mice were prepared with corneo-scleral incisions into the anterior ocular chamber and 95 of this group received systemic penicillin. Beginning on the day of operation, penicillin was given in 5,000 unit doses over a 3-day period. The eyes were enucleated after an interval of 8 days, and studied microscopically. Seventy percent of mice receiving penicillin exhibited inflammation and/or infection in the transplanted eye, while 65% of the untreated mice with transplants had inflammatory and/or an infectious response in the transplanted eye, the difference not being statistically significant. We may conclude that prophylactic penicillin at the therapeutic levels utilized is of no value in reducing the inflammatory response in the experimental anterior chamber technic of lung transplantation in the mouse eye.

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Poliomyelitis Virus in Human Blood During the "Minor Illness" and the Asymptomatic Infection.* (20139)

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Viremia in human poliomyelitis has been reported previously from this laboratory, in one child out of 111 tested(1). The positive result was obtained with blood drawn from a 9-year-old girl 6 hours after the onset of symptoms in an abortive attack of poliomyelitis. At the time, these results were considered evidence that viremia is of rare occurrence in the human disease, and probably not of importance in its pathogenesis. Subsequently, it became known that antibodies are already present at the time of onset of CNS signs both in patients(2,3) and in primates orally infected in the laboratory(4,5). Thus our negative results had to be reinterpreted, for it is clear that if viremia occurs, it must do so early, either in the incubation period or *minor illness* phase, and in 110 of our patients we had probably looked for it too late. The possibility of viremia in the experimental disease had been recently restudied in laboratory primates, and 2 reports(6,7) indicate that the presence of virus in the blood is a regular feature after oral and other routes(8) of administration. In cynomolgus monkeys and in chimpanzees, viremia occurs as early as between the 3rd and 8th days after its ingestion or cutaneous injection, and as long as a week *before* the appearance of paralysis. In reinvestigating viremia in human poliomyelitis, therefore, efforts have been concentrated on obtaining specimens from contacts of cases, *i.e.*, children who might be in the incubation period, and from children with the minor illness syndrome in the midst of an epidemic. The present report deals with the findings in one infected family, in which 3 of the 4 children had minor illnesses during a poliomyelitis epidemic in their community.†

Procedure. Family epidemiology. The W. family resides in the small town of Burbank, Ohio, where an epidemic of poliomyelitis occurred during the summer of 1952(9). The family had had no known contact with a frank case of the disease, but beginning June 20, 21, and 22, the 3 older children aged 10, 4, and 3, developed mild, febrile illnesses, while the youngest, aged 2, remained well. Slight fever, anorexia, nausea and vomiting, headache, and sore throat, in various combinations were the complaints. The oldest child complained also of soreness of the calves of the legs. The father, aged 37, had noted a headache on June 19, but this had disappeared and there were no associated symptoms. The mother remained well throughout. All of the illnesses were compatible in their symptomatology

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