50% alcohol. Lecithin prepared from egg yolk behaves similarly. Although cephalin is completely precipitated when present in mixed phospholipid it is not completely precipitated by this treatment when alone. However, by the use of 5 cc of 0.2% digitonin in 95% alcohol complete precipitation of cephalin was obtained whether alone or when mixed with lecithin.

Summary. It has been shown that mixed phospholipid from blood plasma or egg yolk is rendered quantitatively insoluble in petroleum ether by the use of digitonin. Lecithin and cephalin obtained from egg yolk behave in a similar manner.

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Effect of Scopolamine on the Fetus.*

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The influence of scopolamine on the fetus and on the course of labor is of considerable interest in view of the widespread clinical use of the drug during labor. The clinical observations have been obscured by the simultaneous use of scopolamine with other drugs such as morphine and barbiturates, as well as by numerous complications of labor such as mechanical trauma, anoxemia, and anesthesia. The present experiments represent an attempt to control conditions so that the effect of scopolamine alone may be studied apart from complicating factors.

Cats were selected for study because it was found by trial that cats and dogs react to scopolamine much more readily than rabbits, guinea pigs, and rats.

The effect of scopolamine on the fetus was determined in cats by direct observation of the fetuses following exposure of the uterus by laparotomy carried out beneath the surface of a bath of Ringer's solution at 37°C. Section of the spinal cord in the lumbar region permitted operation without general anesthesia. Several fetuses of a litter were permitted to escape into the bath through incisions of the uterine wall, the umbilical circulation remaining intact. The re-

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mainder of the litter was observed within the uterus. The state of activity of the fetuses was carefully noted at frequent intervals during the experiments which lasted from 1½ to 3 hours. Observations were based upon 29 fetuses obtained from 9 litters of which all were at term except one litter at 7 weeks. Dosage of scopolamine was from 10 to 150 mg per kg or a total dose of 30 to 500 mg, which was administered by a single intravenous injection into the maternal animal. Depression of activity was noted in nonpregnant animals after a dosage of scopolamine of 0.25 mg per kg.

The outstanding result of the present observations was the persistence of marked activity of the fetuses despite administration of large doses of scopolamine to the maternal animal. Spontaneous movements and occasional brief intervals of fetal respiratory activity occurred after scopolamine. In several fetuses direct injection of the umbilical vein with 5 to 10 mg of scopolamine resulted in no marked depression of fetal activity. Furthermore the fetuses survived following delivery and were active like controls removed at the beginning of the experiment before injection of scopolamine. An exception occurred in the case of an animal which received 150 mg per kg or a total dose of 500 mg, the fetuses being alive at birth but dying after several hours.

The presence of scopolamine in the fetus following administration to the mother was readily demonstrated by testing samples of fetal urine. Marked mydriasis followed introduction of fetal urine into the conjunctival sac of the cat.

In order to determine the effect of scopolamine on the labor mechanism, the state of the fetuses was observed following spontaneous birth instead of delivery by hysterotomy. In cats at term a daily dose of 1 to 10 mg per kg was injected subcutaneously until parturition occurred. In 4 cats having 15 kittens, all were born alive. In one dog, a primigravida, reared and mated in the laboratory, one mg per kg of scopolamine was injected subcutaneously daily for 5 days preceding parturition. The last injection was made 20 hours before birth. A litter of 11 full-term pups was born within 3 hours. Nine were alive and survived, while the 2 still-born pups were expelled 2 hours after the others.

Conclusion. There was no evidence of fetal injury in cats following administration of large doses of scopolamine to the maternal animal.