Technical Papers

The Influence of X-Irradiation and Atabrine Upon Feathering in the Chick[1]

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Mushett and Siegel (*1*) have described the hematological changes induced by large doses of Atabrine [3-chloro-7-methoxy-9-(1-methyl-4-diethylaminobutylamino)acridine dihydrochloride]. Although they did not observe a leucocytosis in the chicken, this change has been observed in this laboratory (*2*).

In a study designed to investigate modifications of the x-irradiation-induced leucopenia in the chick, it has been observed that feathering is inhibited by irradiation and that this inhibition is overcome by adding Atabrine to the diet.

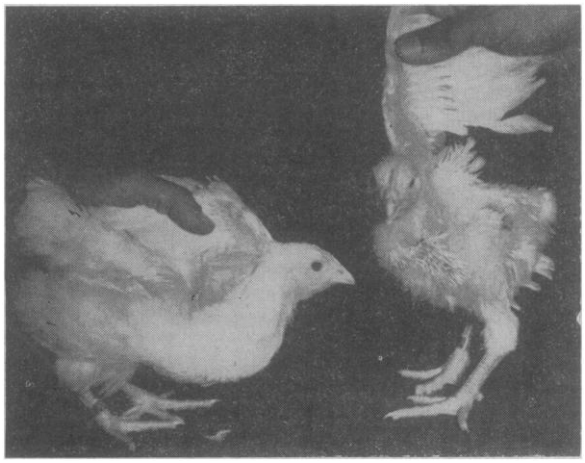

FIG. 1. Chick on the left received the purified diet supplemented with Atabrine; chick on the right received no Atabrine.

Day-old White Rock chicks were divided into two groups of 15 chicks each and housed in a metal brooder. One group received the purified diet described by Keith *et al.* (*3*), supplemented with 2 mg folic acid/kg of diet. The other group received this same diet plus 500 mg Atabrine dihydrochloride/kg of diet. Food and water were given *ad lib.* After 15 days on the respective diets the chicks were irradiated using the following factors: 15 ma, 220 kv, inherent filtration only, HVL 0.25 mm Cu, 32 in. to the center of the animal, 20.4 min at a rate of 42.5 r/min to a total of 865 r (in air), field size covering entire chick.

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The average initial weights, as well as the average rate of weight gain of the chicks over the experimental period, were equal.

The chicks were photographed 26 days after irradiation, one bird from each group being selected at random for each photograph. At approximately 15 days after irradiation it was observed that the chicks that had received Atabrine were feathering at a faster rate than those not receiving Atabrine. The birds that had not received Atabrine produced apparently normal wing and tail feathers, but they developed very few feathers on the breast, back, and neck (Fig. 1).

Further studies are in progress and will be reported at a later date.

References

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3. KEITH, C. K., *et al. J. Biol. Chem.*, **176**, 1095 (1948).

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Does Phosphorylated Hesperidin Affect Fertility?[1]

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Phosphorylated hesperidin, a hyaluronidase inhibitor (*1*), has recently been reported by several investigators to act as a new antifertility factor when administered either orally or intraperitoneally to the rat (*2*), mouse, and human (*3*). Since it is claimed that this substance may be used orally in both males and females, such an important discovery deserves further critical verification. Moreover, if this substance has an effect on fertility, it is of importance to determine whether this is due to the inhibition of sperm penetration into the eggs, as interpreted by these investigators, or whether it is due to the inhibition of ovulation, of the physiological functions of the germ cells, or of implantation and normal development of the embryo. Adult rats and rabbits were used in the present experiments to evaluate these possibilities.

The following two series of tests were performed on rabbits:

a) In order to determine whether phosphorylated hesperidin inhibits fertilization, a doe was bred twice by fertile bucks and 10½–11 hr later, at the time when pene-

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