Résumé

CLINICAL OBSERVATION ON TREATMENT OF PERTUSSIS WITH COLISTIN (YASHIMA)

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It has been found that 0.03 mcg per cc of Colistin, an antibiotic resembling polymyxin, extracted from a species of aerobacillus *B. colistinus*, prevents *Hemophillus pertussis in vitro*. FUJII, NAKAMURA, SAITŌ and SUGANO, SERIKAWA, SUDO and WAKABAYASHI also reported that Colistin is effective in the treatment of pertussis.

We made an observation of 28 cases of pertussis in infants and young children, who were treated with Colistin.. To all cases 500,000 units of Colistin were injected intramusculary every day, and the treatment was continued from 3 to 8 days.

The results weee summarized as follows:

(1) In 20 cases out of 28 (71.4%), effective results were obtained.

(2) No side-effect was recognized in any cases, by the above-mentioned dosage.

(3) Colistin is effective in the therapy of pertussis. It is so harmless and cheap, that we believe Colistin is one of the best materials for the treatment of pertussis.

BIOLOGICAL STUDIES ON ISONICOTINIC ACID HYDRAZIDE (INAH). PART II. ACUTE INTOXICATION OF INAH AND ITS ACTIVE GROUPINGS

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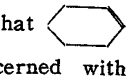
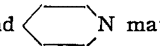
I have selected 8 compounds of similar structure with INAH, and tested their property to cause in animal an acute intoxication accompanied with severe convulsion resulting to death.

Among INAH, p-tol uyl hydrazide, benzhydrazide, isonicotinic acid, nicotinic acid, p-tolyl hydrazine, and phenyl hydrazine, three of them INAH, p-toluyl hydrazide, and benz-hydrazide were found to be active in this respect. This fact suggests that the $CO \cdot NH \cdot NH_2$ is responsible for the production of this convulsion and that  and  may not directly concerned with this activity. LD_{50} of these three compounds was 142 mg for INAH, 162 mg for benzhydrazide, and 187 mg for p-toluyl hydrazide per kg of body weight.

Nextly, I have examined the influence of hypnotica on the manifestation of the activities of these hydrazine derivatives. Three hypnotica were used in this experiment. Phenobarbital is a hypnotica acting on brain axis, chloral hydrate is a cortical hypnotica, and Alebiatin is an ammonium derivative. They were used in amounts of 9.15 mg, 20 mg and 0.6 mg per kg of body weight respectively and applied orally 30 minutes before the injection of INAH.

A considerably remarked influence of these hypnotica upon the figure of LD_{50} of INAH was seen in all instances. The values were 365 mg, 545 mg, and 186 mg per kg of body weight for groups of animals treated preliminary with these three hypnotica respectively.

From this result that chloral hydrate acting on the cerebral cortex exerted the most remarkable effect to decrease the lethal activity of INAH, it appears that INAH also has a special affinity to the cerbral cortex.

Similarly, LD_{50} of benzhydrazide increased from 162 mg to 357 mg by the preliminary treatment with phenobarbital, and the value of p-tuluyl hydrazide increased from 187 mg to 368 mg by same treatment.

In summary, the convulsion produced by the application of INAH is attributable to the action of $CO \cdot NH \cdot NH_2$ (carbonyl hydrazide radical) of this compound and the toxic manifestation can be diminished by the preliminary treatment with hypnotica.