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Potassium iodide does not influence the course of an experimental actinomycosis.

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It is generally believed that iodides are almost specific in their favorable influence upon the course of various mycoses, notably sporotrichosis, aspergillosis, "blastomycosis," and actinomycosis. There can be no question about the value of iodides in sporotrichosis, but concerning the other mycoses reports are not so uniform. It is generally believed, however, that the iodides may cure actinomycosis, particularly in cattle.[1]

Some of the fungi are not virulent for lower animals, and most of the others rapidly lose their virulence when cultivated, so that little experimental work has been done. Renon[2] found that *Aspergillus fumigatus* grew in culture media containing as much as 10 per cent. of potassium iodide; but that inoculated rabbits treated by subcutaneous injections of the salt did not die until 26 and 32 days after infection, whereas the control died in 4 days. Davis[3] found that in experimental sporotrichosis the injection of iodides previous to or simultaneous with inoculation had no inhibiting effect on the course of the disease; but when administered after the infection is under way, the lesions heal. He also found that *Sporotrichum* would grow in media containing considerable quantities of iodide.

Henrici and Gardner[4] have isolated from a case of pulmonary infection a variety of *Actinomyces* very similar to but not quite identical with *A. asteroides* Eppinger, which they named *A. gypsoides*. This fungus is very virulent for guinea pigs, and has maintained its virulence quite unaltered for several years. It is

[1] Salmon, D. E., Eighth and Ninth Annual Reports of the Bureau of Animal Industry, Washington, 1893.

[2] Renon, L., "Etude sur l'Aspergillose chez les Animaux et chez l'Homme," 1897.

[3] Davis, D. J., *Jour. of Inf. Dis.*, 1919, xxviii, 124.

[4] Henrici, A. T., and Gardner, E. L., *Jour. of Inf. Dis.*, 1921, xxviii, 232.

an acid-fast variety quite different from *A. bovis*, and there are no clinical reports of the use of iodides in this type of actinomycosis. Nevertheless, because of its constant virulence it is admirably suited for chemotherapeutic experiments, and it was thought desirable to see what influence iodides would have on the course of the infection in guinea pigs.

The potassium iodide was administered by mouth in aqueous solution. The results are shown in the table below. The first guinea pig was treated with iodides alone; animals 2 and 4 received iodide both previous and subsequent to inoculation; animals 3 and 5 are untreated controls to 2 and 4 respectively.

Date.	Guinea Pig 1.		Guinea Pig 2.		Guinea Pig 3.		Guinea Pig 4.		Guinea Pig 5.	
	Wt. gm.	KI, gm.	Wt. gm.	KI, gm.	Wt. gm.	KI, gm.	Wt. gm.	KI, gm.	Wt. gm.	KI, gm.
Jan. 4.....	743	0.12	838	0.25			654	0.01		
Jan. 6.....	695	0.25	790	0.25			622	0.25		
Jan. 9.....	675	0.25	743 (inoculated)	0.25	1012 (inoculated)	0	620	0.25		
Jan. 11....	650	0.25	625	0.25	965	0	595	0.25		
Jan. 12....			died		died					
Jan. 13....	608	0.25					565	0.25		
Jan. 16....	580	0.25					543	0.25		
Jan. 18....	572	0.25					539 (inoculated)	0.25	— (inoculated)	0
Jan. 20....	580	0.25					555	0.25	560	0
Jan. 21....	562	0.25					500	0.25	—	0
Jan. 23....	—	—					438	0.25	485	0
Jan. 24....	600	0.25					died		died	

It will be seen from the above that the treated animals succumbed simultaneously with the controls; and that the iodide itself, while given in relatively large doses, was not sufficient to hasten death.

In vitro it was found that both *A. gypsoides* and *A. asteroides*, while retarded, still grew in broth containing 10 per cent. of potassium iodide.

It is clear, then, that potassium iodide has no specific action on this type of *Actinomyces*, and if it has any clinical value, it is due, as in sporotrichosis, not to an action on the parasite itself, but because of its action in stimulating the formation of granulation tissue. With *A. gypsoides* the course of the disease is too rapid to demonstrate this latter point in the guinea pig.