Pyruvic Acid and Heart Enlarging ; and Acetaldehyde, Preliminary Report

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As stated in the preceding paper (Beriberi and Pyruvic Acid),¹⁾ I started animal experimentation with freshly prepared pyruvic acid using rats fed on polished rice. At first I made a tentative experiment with 0.2% solution as in the case of methyl glyoxal,²⁾³⁾ but no effect whatever was seen. So I went to the length of using 10% solution in an amount of 0.5 cc. (which had been neutralized), but even then a specially deleterious effect was not seen. Even a decreasing body weight was not remarkable, so all the animals were to be killed on purpose. Not a single one showed ever a heart enlarging. As to the heart enlarging effect, there is no need of testing acetaldehyde on this point. But a large amount of acetaldehyde was identified in human milk. To make it surer, I also performed animal experimentation with acetaldehyde. 10% solution was used in an amount of 1 cc. in the case of rats and in an amount of 5 cc. in the case of young rabbits, all the animals having been fed on thiamine deficient food. All the animals were killed on purpose: in no case the heart was ever found enlarged.

References

- 1) Sato, A. Tohoku J. of Exp. Med., 1951, **55**, 22. 2) Sato, A., and Takamatsu, A. *ibid.*, 1934, **28**, 507. 3) Wako, H., Heart Enlarging Effect of Methyl Glyoxal and Experimental Production of Different Forms of Beriberi by the Poison, to be published in a forthcoming issue of this Journal.

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