

IODINE POISONING COUNTERACTED BY THIOSUL-
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Iodine Poisoning Counteracted by Thiosulphate.

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Sabbatini¹ called attention to the action of thiosulphate of sodium in removing the stain of iodine from the skin. Thiosulphate is a component of the relatively non-toxic, so called colorless tincture of iodine. Its ability to bind with iodine apparently takes precedence over the combination iodine forms with the protein of the tissues. Sollmann² has reported upon "The Fate of Iodin, Iodids and Iodates in the Body," showing that free iodine is promptly bound and circulates as iodide, bound through protein. The possibility is presented of thiosulphate combining with iodine absorbed and circulated in protein combination in a manner similar to that observed in superficial tissue.

Boehm³ has shown that dogs injected intravenously with a lethal quantity of compound solution of iodine (40 mgm. per kilo) exhibit no symptoms of toxicity for a period of 4 to 6 hours. Death is usually delayed for many hours. Pathology due to the iodine, found at autopsy, is produced in similar manner by iodide of sodium. In fatal iodine poisoning in man, death is usually delayed over a period of 24 to 48 hours, offering a favorable time interval for effective intervention.

Rabbits were injected subcutaneously with tincture of iodine, diluted to one-third strength with water, at the time of injection. The minimal lethal dose was found to be 0.175 to 0.180 gm. per kilo. No rabbit receiving more than the latter amount survived.

¹ Sabbatini, L., *Gaz. Osp. e Clin.*, 1912, xxxiii, 58.

² Sollmann, T., *J. Pharm. and Exp. Ther.*, 1917, ix, 269.

³ Boehm, R., *Arch. f. Exp. Path. u. Pharm.*, 1876, v, 329.

THIOSULPHATE IN IODINE POISONING

Thiosulphate of sodium in 10% strength produced no toxic symptoms in dosage of 3.0 gm. per kilo, subcutaneously injected.

The iodine solution was injected beneath the skin of one lateral half of the body, thiosulphate solution subcutaneously on the opposite side.

Rabbits injected with twice the lethal dose of iodine exhibited but slight evidences of toxicity when thiosulphate was used. It was found advisable to give small amounts of thiosulphate by stomach tube at intervals of 3 or 4 hours during the first 12 to 15 hours of the poisoning, to avoid inflammation of the gastric mucosa. Food was then accepted readily. Thiosulphate injected intravenously caused rapid disappearance of symptoms of toxicity. Best results were obtained by combining subcutaneous, oral and intravenous methods of administration. The dosage of iodine was increased to 0.450 gm. with recovery. Iodide of potassium, as a constituent of the tincture was present in the amount of 0.321 gm. additional to the iodine. No attempt was made to increase the dose of iodine above this amount.