

seven. Out of every litter he killed a half-grown animal, and examined all the organs. He found them in every case free from tuberculosis and normal. Gibbes and Shurly also found that placing healthy guinea-pigs with inoculated ones would not affect the former with the disease. In fact, that nothing short of inoculation would produce tuberculosis in the guinea-pigs they were experimenting upon.

They next directed their attention toward the arrest of the disease in the inoculated animals. With this end in view, a great number of experiments were made with a variety of agents. Of the many drugs used by inhalation, chlorine gas produced the best effects. They found that tubercular sputum, thoroughly saturated with chlorine gas, or mixed with fresh chlorine water, soon became innocuous; and animals inoculated with the prepared sputum would not become tuberculous. For instance, Dr. Shurly reported recently to the Detroit Medical and Library Association the history of three cases, all inoculated eight months previously with the sputum from the same tuberculous patient. Two of them, a monkey and a guinea-pig, both died of tuberculosis; but the remaining guinea-pig, the inoculation material of which had been chlorinated, was still alive and well. Many other experiments were attended with the like results.

Owing, however, to the irrespirable character of chlorine gas, it was some time before they discovered by what means they could avail themselves of it as an inhalant. Then they found that air saturated by a spray of chlorine of sodium could enable the animals to inhale large quantities of chlorine with impunity.

Not confining themselves to inhalants, these gentlemen made, and had made under their directions, a long series of experiments by hypodermic injections. The solutions were chiefly of an inorganic character, many of them with metallic bases. The only ones, however, which have proved sufficiently satisfactory to continue the hypodermic use of are solutions of iodine and chloride of gold and sodium, both of course chemically pure.

The results of injections of these upon animals were very remarkable. Among them were the following:

1. Guinea-pigs or monkeys which have ac-

quired phthisis without inoculation, or animals inoculated with the sputum of tuberculosis, can have the disease arrested and a cure accomplished by hypodermic injections of either solution of iodine, or solution of chloride of gold and sodium.

2. Guinea-pigs or monkeys well iodized will not take tuberculosis by inoculation.

3. The same animals, saturated in like manner with solutions of chloride of gold and sodium will not take tuberculosis by inoculation.

4. Guinea-pigs and monkeys cannot be inoculated with tuberculosis from the sputa of patients suffering from tuberculosis when said patients are well under the systemic influence either of the iodine or gold solutions.

After a prolonged series of experiments upon animals, Dr. Shurly put the new treatment into practice upon the indoor patients at Harper's Hospital suffering from pulmonary consumption; and in an article in the *Medical News* of Dec. 27th he gives a short account of his method of treatment, and the measure of success which has so far attended his efforts. He reports, in all, having thoroughly treated twenty-seven cases of phthisis pulmonalis and general tuberculosis, since the beginning of September. Of course, a number of these were advanced cases, in which a good result could not be expected. Six of the number had died. Four had improved sufficiently to be called cured. The rest were still under treatment; though two had so far improved that it was expected they would be discharged from the hospital in another week.

About the time of the issue of this number of the *Medical News*, I received a supply of the two solutions from Dr. Clark, Professor of Chemistry at the Detroit Medical College; and an opportunity occurring, I commenced to treat my first case by the Shurly plan. The result promised so favorably that I visited Detroit to familiarize myself with detail.

In the pens in one of the basement rooms, there were about twenty-five guinea-pigs. Many of these were suffering from induced tuberculosis, and were receiving daily hypodermic injections of either the iodine or auric solutions. They were reported as doing well. Others having been subjected to treatment for a length of time, with abatement of all the symptoms, were pronounced cured.