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Some Remarks Concerning

## MERCAURO.

(Mercuric Bromide of Gold and Arsenic.)

With Especial Reference to Its Use in the  
Treatment of Neurotic Conditions  
of Specific Origin.

—BY—

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**Some Remarks Concerning Mercauro  
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BY THOMAS HUNT STUCKY, M. D., LOUIS-  
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AT a recent meeting of this Society, I had occasion to mention the use of arsenauoro (bromide of gold and arsenic) in epilepsy. Being, comparatively speaking, a new drug to this market, it was thought of sufficient interest to bring it more prominently before the Fellows.

The solution of mercauro (mercuric bromide of gold and arsenic) after the formula of Dr. Barclay, of Pittsburg, is of a beautiful red color, does not deposit, odorless, and tasteless; dosage ranging from five to twenty drops, each 10 drops containing  $\frac{1}{32}$  of a grain of bromide of gold,  $\frac{1}{32}$  of a grain of bromide of arsenic and  $\frac{1}{32}$  of a grain of bromide of mercury. It does not disagree with the stomach, nor relax the bowels. It will produce ptyalism, yet with less recession of the gums than is produced by mercury or the iodides.

Dr. Wood, in his admirable paper, read at the meeting of the Mississippi Valley Medical Association, in In-

dianapolis, laid great stress upon its efficacy in diseases termed scleroses, incipient phthisis, arthritis deformans, in syphilitic diseases in its various forms, in hemiplegias, etc.

I have the pleasure of exhibiting three cases to-night, and a record of eight others, all of whom, with one exception, belong to the neuroses.

*Case I.*—No. 436 of my college clinical records; diagnosis, hemiplegia. W. O. M., aged 28, married; residence, Denver, Colo. Family history fairly good; occupation, proprietor of theatre. Habits, had used alcoholic beverages rather freely for five years. February 28, 1893, following a two days' drunk, patient vomited with great straining; passed into unconsciousness lasting seventy-two hours; complete dextra-hemiplegia, ataxia, aphasia, sinistra-hemiplegia supervened. December 2, 1893, patient presented himself at Clinic having complete paralysis of the right side, could not count fingers with left eye; tongue on protrusion pointing sharply to the right; corners of the mouth greatly depressed on right side; arm on the right side could scarcely be lifted away from the body; leg dragged after the patient in characteristic manner; all reflexes greatly exaggerated. Patient could answer yes and no to questions, but could not tell where he lived and had to be

brought to the College. Was placed on liq. arsenic et hydrarg. iodide, five drops in a wine glass of water, after meals.

December 6, was given the mercauro (mercuric bromide of gold and arsenic) in five drop doses after meals.

December 9.—Patient developed la grippe, treatment was discontinued, and acetanilide given.

December 13.—Condition improved and mercauro (mercuric bromide of gold and arsenic) was given again.

December 20.—Some improvement, medicine continued.

January 3, 1894, dose increased to ten drops.

January 26.—Patient answers all questions with comparative ease, came to the Clinic by himself, can lift his arm as high as his shoulder, the characteristic tremor taking place when he attempts to raise it still higher, can walk tolerably well; treatment continued.

February 7.—Continued improvement.

February 14.—Eating and sleeping as good as before attack.

February 28.—Steady improvement in gait and speech.

March 10.—Doing well.

March 17.—Dose increased one drop every other day.

March 21.—Has regained self confidence.

April 4.—Walks miles, does not have to use cane, no longer drags his foot. Secondary contraction of a slight degree has taken place in fingers only. Students not familiar with the case could not detect any depression at angle of the mouth. Sight in left eye much improved, though outer half is still impaired. Tongue points nearly in the median line. Patient steadily improving.

*Case II.*—J. R., age 35, tobacconist; personal and family history good; he has never had syphilis nor rheumatism. His trouble began about eighteen months ago, with the characteristic pains in the lower extremities. These pains were felt at irregular intervals, sometimes daily and sometimes not for the space of a week or ten days. A short time afterward he noticed a change in gait. He also had frequent attacks of sick headache, three or four seminal emissions weekly, and difficulty in holding the urine. These symptoms ceased about four months ago, but the ataxia has greatly increased, and the pains still continue. He has noticed in the last three or four months a decline in the sexual power. He was admitted into the Hospital February 1, 1894. The skin, reflexes and the knee jerk were normal; there were no sensory symptoms; he had the Argyll-Robertson pupil; co-ordination was

so imperfect that he was unable to stand with the eyes closed and the feet together; and he could hardly make his way from one place to another.

In treating this case I started February 28, with eight drops of the mercauro (mercuric bromide of gold and arsenic) three times a day. From March 14 to April 1, the dose was increased one drop each day, the total quantity given during thirty-three days being 1,245 drops, an average of thirteen drops at each dose.

*Case III.*—W. P., aged 32, painter; personal and family history good. His illness dates back to February 1, 1892, the symptoms being constipation, difficulty in voiding urine, stiffness and soreness in the knees. In a short time the legs became useless. In six weeks he was about on crutches, being at the time under treatment at Hot Springs. He entered the hospital July 7, 1892. At that time there was very little sensation in the left leg, the condition of the right being about normal. He had incontinence of urine and feces.

Commencing February 7, I gave him five drops of the mercauro (mercuric bromide of gold and arsenic) after meals; the dose was increased daily until eleven drops were being given, making the average dose given during the course, of ten drops, thrice

daily. Bladder and bowel symptoms restored.

*Case IV.*—Mrs. S. (I will refer to this case briefly, not being able to get the patient to come here to-night.) There was loss of sensation in right side of face; difficulty in co-ordination; ptosis, chronic constipation, loss of bladder control, reflexes lost. Four months' treatment followed by complete relief.

It could hardly be coincident that such decided changes for the better should have occurred in so short a time.

There have been and are now many preparations on the market which are not solutions of bromide of gold and arsenic, but bromide of gold with hydrobromic acid, arsenic acid, and arsenious acid. In the *Annual of the Universal Medical Sciences*, issue 1891, Dr. Hare, in his article on Experimental Therapeutics, concludes in reference to the action of bromide of gold:

(1) Bromide of gold undoubtedly inhibits the cortical motor centres, even when administered in smaller doses than other bromides. After an internal administration of bromide of gold, in the dose of one and a half to three and one-tenth grains to the kilogramme of the animal's weight, even the strongest and very prolonged electric stimulation of the cortex fails



to bring about any epileptic seizures. To obtain the same result from bromide of potassium, the latter should be introduced in the dose of nine and a quarter to ten and three quarter grains to kilogramme, while bromide of sodium should be given in still larger quantities.

(2) Irritability of individual motor centres, as determined by the appearance of contractions in corresponding muscular groups, is depressed by bromide of gold in but trifling degree.

(3) Excitability of the white substance of the motor region remains intact.

(4) The drug seems to affect mainly the tracts of communication between individual motor centres, as well as between remote areas of the cerebral cortex.

(5) It does not appear to possess any special cumulative action. This action cannot be due to the amount of bromide present therein, since it is in the weakest (55 per ct. by weight) of the three, while bromide of sodium is the heaviest (77.7 per ct.), the potassic salt standing midway.

In the *Annual of the Universal Medical Sciences*, year 1892, an authority states: "Better results can probably be obtained if the drug be given hypodermatically."

The opinion as to the efficacy of gold in disease has been indeed va-

ried. In an article, *Medical Record*, Vol. 34, page 802, September, 1888, this appears—referring to an article on gold and arsenic. "It is highly digestible," while farther on this startling statement appears, "There is probably not a sound clinical observation showing that gold possesses any special therapeutic efficacy in any disease."

The older therapeutists limit its field of usefulness. Bartholow speaks most highly of it, recommending the double chloride in waning sexual force, in granular and fibrous kidney, in melancholia, in atonic dyspepsia, catarrh of bile ducts, etc. The claim made that it produces auric fever has not been observed, nor have I seen any evidences of gastric irritation. In a case of syphilitic nodules with marked cephalagia, there was a rapid subsidence of the nodes, and relief of the head, by the mercuric bromide of gold and arsenic, proving clearly that there is a most decided alterative influence exerted.

The fact that the sedation produced by the bromide of gold is greater than that by the salts of potash and soda should give it a front rank in the treatment of epilepsy, fortified by the alterative influence of the gold and the tonic effect of the arsenic. It has long been recognized that arsenic is the treatment for chorea. In

three cases of this disease, treated by bromide of gold and arsenic, the results were all that could be desired.

The solutions of gold as prepared by the E. M. Johnson Company—

1st. Increase the appetite.

2d. Do not irritate the stomach nor disturb the bowels, seeming to stimulate peristalsis without sufficient irritation to produce purgation.

3d. Do exert decided powers of alteration, sedation where there is irritation, yet stimulation to waning powers.

4th. Are indicated in the majority of diseases affecting co-ordination.

5th. In fact, entitled to a trial in all neuroses.

My sole object in showing these cases and in bringing the subject before the Society, was not to place myself on record that gold would cure these conditions, but it struck me as being a very peculiar coincidence that such marked results and such marked improvement should be manifested in so short a time. Out of a series of eleven cases of neurotic troubles in hospital and private practice, I have been surprised at the amount of improvement. One case is a very prominent man in a fashionable portion of the city, who has been living for a long time almost the life of a child, and who has been under the treatment of many neurologists.

While visiting his wife, she heard of my having treated another case, and suggested the same remedy be given this gentleman. He had incontinence of urine, incontinence of feces, entire loss of control of the lower half of his body, lightning pains in the legs and over the region of the stomach, rest disturbed, and had been in about this condition for four years. I first gave him ten drops of mercuric bromide of gold and arsenic three times per day. He had to be lifted in and out of bed; his legs would become crossed in bed and his wife would have to uncross them at night; he would urinate involuntarily during the night; he was afraid to go out in his carriage, fearing he would have an involuntary evacuation of the bowels. He was given this treatment for two months without any apparent improvement, when I increased the dose one drop per day until I secured the effect of the arsenic; the dose was increased until he took twenty-five drops three times a day. He waked up one night complaining of a tingling sensation all over his body; I then ordered the medicine reduced to ten drops three times per day. His incontinence of urine had ceased; he has perfect control of the sphincter ani; he has considerable motion and strength in his legs, and can get up and down without assistance. There has been no

further improvement, but certainly this has been a great advance over his previous condition. There is another point about this solution that has struck me with force—that is, its possible or probable usefulness in the treatment of glandular and joint troubles. It combines well with lime and salicylate of calcium. I have just had a case of enlargement of the cervical glands with calcareous change, which has been treated with arsenauro (bromide of gold and arsenic,) with a decided reduction in the size of the glands. His father gave a syphilitic history, and this patient had been treated for syphilis. I have also tried this remedy on other cases of glandular enlargements, and have been surprised at the rapid subsidence. Another case, a prominent man who returned from Hot Springs some time ago, much emaciated, taking daily 450 grains of iodide of potassium; he also had unsteady gait and other nervous symptoms. The iodide of potassium was discontinued, and arsenauro (bromide of gold and arsenic) administered. While there has been no marked improvement in his gait, there has been decided improvement in flesh. Another case gave the history of pulmonary hemorrhage, spitting of blood, yet there is no marked change to be found in the lung. She has been placed upon this agent,

starting with four drops, increasing one drop every day until she is in better condition and weighs more than she has in six years. These cannot be coincidences, and the cases I have referred to demonstrate the usefulness of this agent in the treatment of syphilitic lesions. We have had several cases of syphilis in the Clinic at the college that I did not refer to in my paper treated with this agent, in all of which there has been a more rapid subsidence of all symptoms than usually obtains under the use of mercury alone. There has not been the marked ptyalism, nor the marked retraction of the gums, and the eruption had dried up very rapidly. The fact then that it enters into combination with lime, that it enters into combination with mercury in the form of a solution and is probably eliminated by the kidney shows that it has a decided advantage over the old chloride of gold and sodium, which was not readily assimilated. Experience thus far has proven that this solution has a great advantage over iodide of potassium in that it does not produce gastric irritation. None of the cases in which it has been used have exhibited any gastric symptoms; it has produced no interference with digestion or the secretions, and it not only seems to have an especial action upon the constitu-

tion, but proves to be a general tonic in its effect throughout the entire alimentary tract.

I have simply shown these cases with the hope that it might be of service in suggesting a new field of experiment. There is one more point upon which I would lay special stress. I made the error myself a year ago when the first specimen was sent to me. We are inclined to discard its use too soon. We must push it like we do iodide of potassium for its full effect. I believe it is a good addition to our therapeutics, and that its outcome is destined to be a great one. Certainly it cannot be explained that these three cases I have exhibited, and the others that have been treated would have improved so markedly without its use. It has not been my experience that cases of locomotor ataxia suddenly turn in three or four weeks without treatment into a condition of decided improvement. It has not been my experience that within three or four days cases showing evidences of involvement of the lateral columns begin to assist themselves. It is not my experience that cases of paresis of a certain lot of muscles begin to take on action, and that patients state that they can feel a tingling in that part, which I do not attempt to explain; nor do I attempt to localize its

action exactly in these cases; I simply present the patients and give my experience in their treatment to emphasize my statement that I believe this remedy has a wide field of usefulness in the cure of neurotic conditions. I have used arsenauro (bromide of gold and arsenic) in two cases of incontinence of urine; in one of these there has been decided relief. I would like to call especial attention to its service in the treatment of choreic conditions; we get not only the benefit of the arsenic, but the sedative action of the bromide and alterative effect of the gold. I have used it with success in three cases of chorea without any other treatment.

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Respectfully yours,

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