

individuals by the use of the iodine. A physician in this city informed me that even the contact of tincture of iodine with his fingers gave him symptoms of iodism. Another physician at one time could not touch the tip of his tongue to a bottle containing the iodide of potassium without having headache and nervous depression as a result. The affection in question is exceptionally rare. It may be combined with irritation of the cutaneous or mucous expansions, or occur alone. In persons having the idiosyncrasy, iodine cannot be used. The iodides seem more apt to cause it than iodine in tincture or solution. The characteristic feature of iodism is great nervous depression, with more or less headache, ringing in the ears, neuralgic pains in the bones, etc.

The direct irritation of the *primæ viæ* caused by the iodides is one of the serious obstacles to getting a full effect from the drug, to reach which perfect assimilation is necessary, without interfering with nutrition. This irritation manifests itself by loss of appetite, gastralgia, perhaps nausea, diarrhœa with griping, etc.

To avoid these bad effects, every precaution is necessary. The iodides should never be used in pill-form except when the dose is quite small (never more than five grains), and then the pill should be taken during or just at the close of a meal. It is on this account that it is generally found best to administer the iodides invariably after eating, and always freely diluted with water.

When the stomach happens to be especially irri-

table, it is well to restrict the diet, to cut off fruits, vegetables, and indigestible food. I found it necessary in one case to limit the patient to a diet of milk and rice before I could push his iodide sufficiently to master his symptoms. Bismuth-powders, or even a little opium, may be added to the course if necessary, and, where the stomach cannot be managed by any of these means, the rectum may be used for a time. Five or ten grain doses of iodide of potassium in an ounce of beef-tea, thrown into the rectum several times a day, rarely cause any complaint, for a time at least. The vapor of iodine may be inhaled, but I have not found it necessary to test this method therapeutically. Iodoform in suppository is not irritating, and the same substance is pretty well borne by the stomach. I have given half a drachm at a dose without irritating the stomach, but I am not yet convinced that any of the properties of the iodides are shared by iodoform, and cannot, therefore, recommend the latter in the treatment of syphilis.

All the bad effects of the iodides are seen most strikingly when the iodide of potassium is used. The iodide of sodium at the same dose is much better tolerated; but its therapeutical value is not quite so great as that of the iodide of potassium.

When the stomach objects to both, the compound tincture of iodine may be used in water or in starch-water (iodide of starch). I have not seen the latter disagree with the stomach, even after the iodides had proved very irritating. I have obtained fair results

from its use in thirty-minim doses, largely diluted with water, and have not had occasion to push it further. The tincture of iodine is certainly less efficacious than the iodides, but it is an excellent preparation to fall back upon when the latter disagree. I have used metallic iodine, albuminate of iodine, iodide of ammonium, and iodide of calcium; but see no advantage in going outside of the first three mentioned—namely, the iodide of potassium, the iodide of sodium, and the compound tincture of iodine. With these, if iodine can be taken at all, I believe the requirements of any case may be met.

Ammonia in some form is often combined with the iodides in solution, under the idea (original, I believe, with Paget, who used the carbonate) that this addition intensified the power of the iodide with which it was combined. I have not been able to convince myself that this is so, although sometimes I have felt nearly sure of it. The combination, however, does no harm, and I often add one or two grains of the carbonate of ammonia, or the iodide of ammonium, to each dose of my solution of the iodide of potassium or sodium. Future observations will decide as to its real advantage.

The foregoing general remarks on the iodides and their uses are applicable wherever and whenever the drugs are employed, whether in combination with mercury or alone.

MIXED TREATMENT.

In the mixed treatment, the mercurial may be administered as inunction, or in fumigation, the iodide

being taken by the stomach, or both substances may be combined in the same formula.

An excellent combination, palatable and efficient, is the following. As written, the dose of the biniodide of mercury (one-sixteenth of a grain) is a full one for prolonged use. The quantity of mercury or of iodide of potassium may be varied at will, and one drachm of iodide of ammonium, or of the carbonate, may be added to the four ounces if desired. The iodide of sodium may be substituted for the iodide of potassium:

R. Hydrarg. biniod.,	gr. ij.
Potassii iodidi,	3 ij.
Syr. aurantii corticis,	3 j.
Tr. aurantii corticis,	3 j.
Aquæ,	ad 3 iv.
M. Teaspoonful in water after eating.	

When a mild mixed treatment is to be long continued, it may be carried out in pill-form if the patient has a good stomach. Compressed pills (Dunton) are found in the shops, containing the biniodide of mercury and iodide of potassium in the proportion of one-twentieth of a grain to three grains, one-sixteenth to four, one-twelfth to five.

It is more convenient, however, to have pills made as required in whatever proportions seem suitable, as—

R. Hydrarg. biniod.,	gr. iij.
Potassii iodidi,	gr. cl.
Gum-tragacanth,	q. s.
Glycerini,	q. s.
M. Make into fifty pills.	

The iodide of sodium may be substituted in the pill

for the iodide of potassium, and some reduced iron, or a minute portion of arsenious acid—especially valuable in long-standing and superficial infiltrations tending to become scaly—may be introduced into the pill, separately or together. Iron is indicated in anæmic conditions, and a little arsenic in such troubles of the integument as are peculiarly chronic and of the scaly type.

The mixed treatment is rarely given for any very prompt immediate effect. The more chronic troubles of intermediary and late syphilis call for it; and all the late lesions which are not frankly and simply pure gummata. The latter need no mercury.

When it is desirable to give one of the iodides at a fixed dose, it is well to administer it in solution in some bitter tonic, as—

R. Potassii iodidi, $\frac{3}{4}$ ss.
Tr. cinchon. co., $\frac{3}{4}$ iij.
Teaspoonful, largely diluted in water, after eating.

Two grains of one of the preparations of ammonium may be added to each dose of this preparation, or gentian-tincture may be substituted for cinchona.

A very convenient way of giving the iodide, however, is as follows:

R. Potassii iodidi, $\frac{3}{4}$ j.
Aquæ destillatæ, ad fl $\frac{3}{4}$ j.
M.

This is a saturated solution. The dose to commence with should be five or ten minims, and one or more minims may be added to each subsequent dose, accord-

ing to the rapidity with which it is desired to push the drug. Such a solution and a minim glass generally give the patient satisfaction. This minim dose, of course, must be largely diluted with water when taken. In the same manner a saturated solution of iodide of sodium may be used:

R. Sodii iodidi, $\frac{3}{4}$ j.
Aquæ, ad fl $\frac{3}{4}$ j.

As already stated, iodine in tincture may sometimes be advantageously substituted for one of the iodides:

R. Tr. iodinii comp., $\frac{3}{4}$ ss. to $\frac{3}{4}$ j.
Aquæ, $\frac{3}{4}$ j.
Teaspoonful, largely diluted with rice-water or simple water.

QUANTITY OF IODIDE WHICH MAY BE REQUIRED.

The limit to the amount of iodide which may be given to a patient depends upon its action. If all precautions are taken to keep the kidneys active and the skin free, and the dose is so managed that the stomach does not rebel, the drug may be pushed until the symptoms yield, and this they surely will do if they are of a gummatus nature. Under the kindly influence of iodine, unsparingly pushed, the node melts away, the gummy tumor becomes absorbed, the spreading ulcer blushes with healthy granulations, the palsied muscle regains its contractility, the veil drops from the clouded intellect, the maniacal paroxysm is followed by peace.

No means in the physician's hands place him so near the Deity as the iodide of potassium. With it, in

well-selected syphilitic cases, he can sometimes almost effect a resurrection. Wasted and lost functions are restored; the mind, the memory, the speech, the hearing, the sight, the taste, the touch—all may be recovered by its aid. The prognosis in the most desperate conditions is always infinitely better where syphilis can be made out as having caused the trouble, than where any other diseased condition is at fault; and no amount of destructive tertiary disease need occasion despondency, so long as the integrity of the stomach can be preserved and the physician is strong in his faith in iodine, and expert in his methods of using it.

I have given an ounce a day of the iodide of potassium (two drachms every six hours) in several cases with advantage. It is very exceptional, however, to give such large doses. Rarely is more than a drachm-dose necessary, and a half-drachm meets the full requirements of most cases. With iodine, as with mercury, every man has his own dose; and if the diagnosis be accurate, and the proper precautions in administration taken, the drug may be pushed indefinitely until the symptom yields. In all ordinary cases from three to five grains at a dose is enough to begin upon. In emergencies (hemiplegia, threatened loss of soft palate, mania, etc.) commence with twenty grains, and increase rapidly, adding five grains to the daily or even to the hourly dose if necessary.

Unfortunately, the iodide of potassium is an expensive drug, but it is the poorest kind of economy to buy it at a cheap store. In such cases it is generally a little

iodide mixed with a large amount of bromide of potassium which is bought.

DURATION OF TREATMENT BY IODINE.

The symptoms are what we treat with iodine, not the disease. Mercury modifies the disease, iodine cures certain symptoms; mercury tends to prevent relapse—not so iodine. Hence iodine need be given for the symptoms it controls; it should be continued during the existence of the latter, and for some weeks—possibly months—afterward (according to the severity and chronicity of the symptoms), and then gradually dropped, while mercury, which should be given with it toward the end, is continued.

OTHER MEANS USED IN THE GENERAL TREATMENT OF SYPHILIS.

The different preparations, extracts, decoctions, etc., of the woods, are of some service as tonics and adjuvants during a course of general treatment, but have no specific value. Guaiac and sarsaparilla are the best: the former is more fitting to be used with mercury; the latter, while iodide of potassium is being taken. Sulphur as a curative agent has, I think, no value. A course at a sulphur-spring is believed by some to be able to decide whether the patient in a given case is cured of syphilis or not; the idea being that, if any syphilis remains, the sulphur-bathing will cause it to appear. This test is not reliable in late syphilis, when it is most needed. The irritation of a sulphur-bath

will often call out an eruption upon a patient suffering from syphilis early in the disease, but later along he may be manifestly suffering from visceral syphilis, and still show nothing new after sulphur-baths. As for the alleged power of sulphur to "get mercury out of the system," I consider it purely hypothetical.

Zittman's decoction (the stronger), of which the formula may be found in the United States Dispensatory, is a remedy of undoubted power. It is, roughly speaking, a decoction of sarsaparilla and senna made aromatic, and containing a little mercury. In very obstinate cases of late syphilis, especially the ulcerative form, where there is a tendency to cachexia and no appetite, large doses of this decoction up to a pint a day or more, so as to produce pretty free catharsis, will often give the patient a decided turn for the better. It may be used tentatively for a while, when the standard remedies seem to lose their power.

Syphilization as a cure for syphilis has been judged by the profession of the present day. It is based on a misconception, and its use with private patients is impracticable.

The Hot Springs of Arkansas are vaunted for their power to eradicate syphilis. This claim is utterly unfounded in fact.¹ The eruptions do disappear at the

¹ One of the physicians from the springs, recently on a visit to New York, informed me that he did not claim for the springs any power to do away with syphilis, but always gave mercury moderately and iodide of potassium in connection with the waters. He stated, however, that the general influence of the waters was tonic and reconstituent, and that all forms of syphilis did much better under their use than when treated without them.

Hot Springs, and many of the more chronic and inveterate cutaneous lesions are promptly removed by a course of the baths, but relapses occur just as after other forms of treatment, and the great disadvantage of the springs is that they encourage false hopes. Some of the physicians at the springs, I find, use mercury and the iodides in excess upon the patients who are taking the baths.

The exact value of these springs has not yet been scientifically established. It is to be hoped that some of the physicians now upon the spot will make a thorough study of the subject and report it to the profession. Such a report would doubtless be of great value.

GENERAL TREATMENT OF PREGNANT SYPHILITIC WOMEN.

When a woman known to have active syphilis becomes pregnant, the chances of abortion or miscarriage are very great. In many cases a careful mercurial treatment will avert such a catastrophe.

It is proper to treat all cases of pregnancy in syphilitic women with mercury, and with mercury alone, so far as the pregnancy is concerned, although for her own special symptoms the mother may require iodine. None of the preparations of iodine, however, seem to possess any value in averting abortion.

The obstacle to treatment in a pregnant woman is the condition of the stomach, which for many months in most women (sometimes during the whole of pregnancy) is capricious, irritable, liable to spontaneous nausea, and otherwise unfit for the introduction of

medicine. In a given case if the stomach happens to be perfectly good, mercury may be given by the mouth—preferably in the form of blue-pill combined with iron. The “tonic dose” is too small to be relied upon; the “full dose,” if maintained throughout pregnancy, would be debilitating to mother and child. It is better, therefore, to use a little more than the “tonic dose,” adding, perhaps, one-third of the “reserve dose” (p. 36). This may be safely maintained throughout utero-gestation.

In a great majority of all cases, however, no accurate dosing by the stomach can be followed out, and inunction must be relied upon. It should be steadily continued throughout pregnancy, but never pushed to the point of salivation.

GENERAL TREATMENT OF INHERITED SYPHILIS.

All the earlier symptoms of inherited syphilis yield, if they do so at all, to mercury. The bone-lesions, and some of the visceral lesions, do better when the iodides are used at the same time with the mercury, but the latter is indispensable in all cases. The stomach of the nursing baby cannot be depended upon, for vomiting is nearly as natural to it as swallowing, and it is impossible to regulate the dose; therefore inunction must be resorted to for babies. Young babies do not seem liable to become salivated, and the only caution required in treating them by inunction is a care that their delicate skin does not become irritated by the

ointment employed. This may be avoided by frequent inspection, and plenty of soap-and-water.

Inunction in babies is best performed by smearing the flannel belly-band with ointment or oleate, and keeping it constantly applied until the skin commences to show irritation. The soles of the feet, unless rawed by excoriations or pemphigus, may be bound up in the oleate. Bandages may be wrapped also around the knees and elbows, the constant motions of the child tending to work the mercury into the skin. Should the infant get considerable diarrhoea, the inunctions may be intermitted temporarily.