

Prof. Bartholow, in his excellent "Treatise on Materia Medica," says he has seen no injections so frequently successful in gonorrhœa as—

R. Hydrastis, ℥j 400
Mucilag. Acaciæ, ℥iv 150.00
M.

"Or the fluid extract, diluted to one-half or three-fourths with water, may be used for the same purpose." I often prescribe a solution of the muriate of hydrastin, about one-half grain (0.03) to the ounce (30.00), with very good result.

Soluble bougies, so called "Reynal's medicated bougies," containing various astringents combined or not with sedatives, and intended to be introduced into the urethra and allowed to remain there till they dissolve, though ingenious, have not proved of any special value.

Finally, in many cases of gonorrhœa, simple iced-water, injected after each passage of the urine, is very serviceable in allaying pain and irritation, and not inefficacious for the cure of the discharge.

Copaiba and Cubebs.—Certain drugs which appear to possess a peculiar power in arresting inflammation of the urethral mucous membrane, are called anti-blennorrhagics. The chief of them are copaiba and cubebs. Some interesting investigations made by Ricord to determine the mode of action of these agents, are given in *Ricord and Hunter on Venereal*. It has already been observed in practice, that copaiba and cubebs had but little curative effect upon gonorrhœa of any portion of the male or female genital organs, except the urethra; and it was hence suspected that they acted chiefly by their presence in the urine, and not through the general circulation; but this fact had not been demonstrated. A man with gonorrhœa chanced to enter Ricord's ward at the Hôpital du Midi, who had a fistulous opening communicating with the urethra a short distance in front of the scrotum, produced by a ligature which had been applied around his penis when a child. He could, at will, by separating or approximating the two edges of the fistula, either make his urine emerge from the artificial orifice, or cause it to traverse the whole extent of the urethra. Both portions of the canal were affected with gonorrhœa.

Ricord administered copaiba to this patient, and directed him to pass his water entirely through the fistula. In the course of a few days the disease was cured in the posterior portion of the canal, behind the artificial opening through which the urine had passed, while it remained unchanged in the anterior portion. He was now directed to make his water pass through the whole length of the canal, and in a few days more the anterior portion was also cured. By a singular coincidence, two other cases of a similar character soon after presented themselves in Ricord's wards, in one of which copaiba, and in the other cubebs, was given in the same manner, and the result in each was the same as in the case just described. From these experi-

ments, Ricord concludes that copaiba and cubebs have but little influence upon gonorrhœa, unless directly applied through the urine to the diseased surface, and hence we cannot expect decided benefit from their administration in any form of gonorrhœa, except that of the urethra in the two sexes. In gonorrhœa of the vagina or vulva, or in balanitis, they are comparatively useless.

The presence of these drugs in the urine is still further evinced by the odor which they impart to this fluid, and which is often sufficient to pervade the bed-chamber occupied by the patient.

It must not, however, be inferred that copaiba and cubebs have no effect except by way of the kidneys. They are often used with benefit in other diseases than those of the urinary organs, and cannot, therefore, be entirely destitute of action through the general circulation. Moreover, they sometimes act as revulsives by producing copious evacuations from the bowels, and the urethral discharge is diminished, as after the administration of a purge; their chief action, however, is in the manner described, by their presence in the urine.

Such being the case, it might naturally be supposed that an emulsion of copaiba injected into the urethra would have the same effect, and that thus the internal administration of so nauseous a drug might be avoided. The experiment has been tried in numerous instances, but the result has always been unsatisfactory. As stated by Ricord, both copaiba and cubebs, in passing through the digestive organs or kidneys, undergo some modification of an unknown character, upon which their curative power depends, and which cannot be imitated by art.

Dr. Hardy, of Paris, is said to have effected a cure in several cases of vaginal gonorrhœa by giving the patients copaiba, and directing them to inject their urine into the vagina after each act of micturition. This course, however, is more interesting as an experiment, than worthy of imitation in practice.

M. Roquette, of Nantes, states that he has cured two patients who happened to be rooming together, by giving copaiba to one of them, and directing the other to inject his friend's urine.¹ Testimony on this point, however, is not uniform. In the *Gaz. Med. de Lyon*,² Diday says: "We seize the present occasion to confess that injections, and even the retention within the urethra, of urine containing copaiba—a mode of treatment proposed by ourselves in 1843—has not had in our hands the same success as reported by other authors, or as theoretical considerations would lead us to expect."

Zeissl has experimented with inhalations of the ethereal oil of copaiba and other anti-blennorrhagics, in a few cases, and states their action to have been favorable but slow.

¹ Accidents déterminés par le copahu, *Union méd.*, Paris, Dec. 19, 1854.

² June 16, 1863.

It was formerly supposed that copaiba could be used with safety only in gleet, and even then in very small doses, and that it was inadmissible in gonorrhœa, especially in the acute stage, having a tendency, as was thought, to excite inflammation of the neck of the bladder and swelled testicle. In the latter part of the last century, however, it was discovered that the natives of South America were in the habit of administering copaiba in large doses in all stages of gonorrhœa, and this, too, with very great success. This led to a bolder method of administering it, and it was soon ascertained that its curative effect is much greater in the acute than in the chronic form of urethritis, and that it is rarely, if ever, productive of those complications which were once attributed to it.¹ In short, it would appear that copaiba can be administered with safety and to much greater advantage in the acute stage of gonorrhœa, or at an early period of the stage of decline, than afterward, and the same is true of cubebs. Still, when a case of this disease presents itself with marked inflammatory symptoms, it is usual to wait for a day or two until these have been somewhat subdued by the means already mentioned before commencing with copaiba or cubebs, and I do not think that any time is thus lost; and, in all cases, the effect of the remedy is promoted by the previous exhibition of a cathartic. The diuretics and alkalis, spoken of in connection with the acute stage, may be combined with these drugs, as in some of the formulæ to be mentioned presently, or they may be given separately.

The dose of copaiba is from twenty minims to one or even two drachms, repeated three times a day. It may be given in its pure form upon coffee, wine, or milk, but it is so disagreeable to the palate, and so likely to excite nausea, eructations, and even vomiting, that few persons can thus tolerate it. To render it more acceptable to the taste and stomach, it is generally given in combination; and other ingredients are often added for the purpose of assisting its action upon the urethra. The "Lafayette mixture" in common use may be made more acceptable to the palate by the addition of extract of liquorice, as follows:

R. Copaibæ, ℥j	30'00
Liquoris Potassæ, ℥ij	8'00
Ext. Glycyrrhizæ, ℥ss	15'00
Spiritus Ætheris Nitrici, ℥j	25'00
Syrupi Acaciæ, ℥vj	225'00
Olei Gaultheriæ, gtt. xvj	1'20

Mix the copaiba and the liquor potassæ, and the extract of liquorice and sweet spirits of nitre separately, and then add the other ingredients.

Dose.—A tablespoonful (15.00) after each meal.

¹ For an interesting history of the remarkable change in medical opinion with regard to the administration of copaiba, see TROUSSEAU, *Traité de thérapeutique*, vol. ii., p. 592.

The following are also useful formulæ:

R. Olei Copaibæ,	
" Cubebæ, āā ℥j	4'00
Aluminis, ℥ij	8'00
Sacchari albi, ℥iv	16'00
Mucilaginis, ℥iij	13'00
Aquæ, ℥ij	60'00
M.	

Dose.—A teaspoonful (5.00) three times a day.

R. Copaibæ,	
Liquoris Potassæ, āā ℥iij	12'00
Mucilaginis Acaciæ, ℥j	38'00
Aquæ Menthæ Viridis, q. s. ad ℥vj	200'00
M.	(Milton.)

Dose.—One ounce (30.00) three times a day.

R. Copaibæ, ℥x	40'00
Tincturæ Cantharidis,	
Tincturæ Ferri Chloridi, āā ℥ij	8'00
M.	

Dose.—From half a teaspoonful (2.50) to a teaspoonful (5.00).

R. Syrupi Acaciæ, ℥v	190'00
Vini Opii, ℥j	30'00
Olei Juniperi,	
Olei Cubebæ, āā ℥ij	8'00
Copaibæ, ℥iij	12'00
Spiritus Gaultheriæ ℥j	30'00
M.	

Dose.—A teaspoonful (5.00) three to four times a day. (Dr. Hollywood, of Detroit.)

But, in whatever way combined, many stomachs will not tolerate copaiba in a liquid form; in which case we may prescribe the solidified mass, formed by the addition of magnesia, and known in the *United States Dispensatory* as *Pilulæ Copaibæ*. It requires some little tact to prepare this mass; or, rather, difficulty is met with, unless the proper kind of copaiba be used. Two kinds of the balsam are found in commerce, one of which, the best, is solidifiable with magnesia, and the other not. The solidified mass should be divided into pills, each of which may contain five grains; and it is desirable to coat them with sugar, both for the purpose of preventing their adhering together, and to render them more acceptable to the palate. This is to be accomplished in the following manner: Put the pills into a vessel with sufficient water to moisten them; then turn them out upon a pan and sprinkle over them finely-powdered sugar, at the same time rolling them about by shaking the pan, so that they may be entirely and equally coated. This process may be repeated after they are dry, as many times as is necessary to give them a thick coating of sugar. The dose is from four to eight pills three times a day. Thus prepared, they leave no taste in the mouth, and, being slowly dissolved in the stomach, are much less likely to excite nausea than the liquid.

We have another anti-blennorrhagic, but little if at all inferior to

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copaiba, in the powdered berries of the Piper Cubeba. Cubebs possess the advantage over copaiba, of being far less disagreeable to the taste, and less likely to excite nausea, eructations, vomiting, and diarrhoea, and, on this account, are often to be preferred in the treatment of gonorrhœa. They cannot be relied upon, however, unless freshly powdered and preserved in a glass vessel, since the essential oil, which they contain, is rapidly absorbed by any porous material. Cubebs are conveniently taken, mixed in sweetened water, in the proportion of one to two drachms of the powder to half a glassful of the liquid, and this dose should be repeated three or four times a day.

Cubebs are often advantageously combined with iron, especially for persons of weak habit, thus:

R. Pulveris Cubebæ, ℥j 400
 Ferri Carbonatis, ℥ss 200
 M.

To be taken three times a day.

Cubebs and copaiba may be combined together in the same prescription:

R. Copaibæ, ℥ij 6000
 Pulveris Cubebæ, ℥j 3000
 Aluminis, ℥iiss 600
 Magnesie, q. s. ut fiat massa.

To be divided into pills containing five grains each (0.32), of which from four to eight are to be taken three times a day.

R. Pulveris Cubebæ, ℥iij 9000
 Copaibæ, ℥iiss 4500
 Aluminis, ℥ij 800
 Sacchari albi, ℥j 3000
 Magnesie, ℥iiss 600
 Olei Cubebæ,
 Olei Gaultheriæ, āā ℥j 400
 M.

This mixture is known as the "Black Paste," and the patient may be directed to take a piece, the size of a walnut, after each meal. The following prescription is particularly adapted to delicate stomachs:

R. Copaibæ, ℥ij 6000
 Magnesie, ℥j 400
 Olei Menthæ Piperitæ, gtt. xx 130
 Pulveris Cubebæ,
 Bismuthi Subnitratæ, āā ℥ij 6000
 M.

To be divided into pills of five grains each (0.32), and coated with sugar.

R. Copaibæ, ℥j 3000
 Magnesie, ℥ss 200
 Pulveris Cubebæ, ℥iiss 4500
 Ammonie Carbonatis, ℥ij 800
 Ferri Sulphatis, ℥j 130
 M. (Méot.)

To be divided into pills of five grains each (0.32); dose, three, three times a day.

Copaiba and cubebs may also be obtained enveloped in capsules of gelatine, and this is a popular form of administration. The capsules

obviate the disagreeable taste of these drugs, but they do not always prevent nausea and eructations, when their contents are suddenly discharged into the stomach by the solution of the envelope. In such cases we may employ the French *dragées*, which have been introduced within the last few years, and of which there are several varieties; some containing copaiba alone; some, copaiba and tar; others, cubebs, and others still, both these drugs combined with iron; I have found them all to be very reliable. The dose is from four to six, three times a day.

Cullerier expresses the opinion, which is indorsed by Fournier, that it is sometimes advantageous to alternate doses of cubebs and copaiba. "Give, for instance, six capsules of copaiba in the morning, six of cubebs during the day, and six of copaiba at night; the next day, commence with the cubebs, and so on. This method of administering these drugs, simple as it may appear, is of great service, and I would recommend it whenever a case of clap does not yield to copaiba and cubebs given separately" (Cullerier).

The "Matico Capsules," manufactured in New York, contain copaiba, oil of cubebs, the ethereal extract of cubebs, gallic acid, and morphine. In these, as in the "matico injection," the "matico" is represented only by gallic or tannic acid in small proportions, the active ingredients being those well known!

Injections of an emulsion of copaiba into the rectum, when the drug is not borne by the stomach, have been recommended, especially by Velpeau. I have never tried this method of administering copaiba, and should have but little faith in its efficacy. It is acknowledged that a much larger quantity must be used than when it is given by the mouth. A simple injection should first be employed to clear the rectum of fecal matter, when the following mixture is to be thrown in:

R. Copaibæ, ℥v 2000
 Ovi Vitelli, No. j. 006
 Extracti Opii, gr. j 006
 Aquæ, ℥viss 19500
 M.

The nausea, eructations, and diarrhoea, which are often excited by copaiba, have already been referred to, and sometimes render it impossible to administer this remedy in any form to a delicate stomach. The diarrhoea may often be controlled by the combination of alum or an opiate, but more frequently requires the drug to be suspended, and afterward resumed in smaller doses.

Copaiba sometimes, also, gives rise to a cutaneous eruption, belonging to the class of exanthemata, as roseola, erythema, or urticaria. Such eruptions should be carefully distinguished from those of secondary syphilis, as may readily be done by the absence of coexisting syphilitic symptoms, by the itching that usually, but not always, attends them, and by their disappearance in a few days after the copaiba is suspended. The administration of copaiba should not, as a rule, be continued, if it produces this effect, although Diday says

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that the eruption will disappear spontaneously all the same, whether we go on with the copaiba or not.

Another unpleasant symptom not unfrequently occasioned by copaiba, is pain in the region of the kidneys, dependent upon congestion of those organs. A few years ago, a patient was under my care for gonorrhœa, who had previously had several attacks of hæmaturia. Contrary to my advice, he took copaiba, which induced a return of the blood in his urine, and I afterwards learned that the administration of this drug had already produced a similar effect in a former attack of gonorrhœa. This and other similar instances may readily be explained on the probability that copaiba and cubebæ produce a certain amount of hyperæmia of the kidneys. But a far more serious charge has been brought against these drugs, viz., that of producing morbus Brightii. Now there is no evidence whatever that this charge is well founded. Zeissl states that in his large experience, he has found no proof of the same, and this is our own testimony and that of others well informed. The error has probably arisen from the fact that the urine of persons taking copaiba will, on the addition of nitric acid, deposit a sediment which has been mistaken for albumen. That it is not albumen is shown by its disappearance on boiling, or on the addition of alcohol, potash, or carbonate of ammonia. It is merely due to the copaibic acid contained in the urine.

Cubebæ may occasion, though much more rarely, any of the unpleasant symptoms just mentioned as likely to occur from copaiba. Both of these drugs, in large doses, will, in rare instances, excite severe headache, giddiness, and even more serious symptoms connected with the nervous centres. Ricord mentions a case of temporary hemiplegia, and another of violent convulsions, produced by copaiba; in both instances these serious symptoms were followed by the outbreak of a cutaneous eruption, also dependent on the drug.

The anti-blennorrhagics, now mentioned, are of undoubted efficacy in the treatment of many cases of gonorrhœa, but in others they utterly fail; nor have we any means of distinguishing these two classes of cases beforehand. As a general rule, if they are likely to prove successful, their good effect will be apparent in a fortnight or three weeks from their commencement, and if, by this time, the disease continue unabated, they should be omitted, and other means employed to effect a cure. When long continued, they produce disorder of the digestive functions, impair the appetite, and induce general malaise and debility; a condition of the system highly calculated to prolong the duration of gonorrhœa. Though often of marked benefit, they are by no means indispensable in the treatment of every case of gonorrhœa.

Preparations of the *Gelsemium sempervirens* are much employed at the South, given internally, in the treatment of gonorrhœa, but in my hands have not proved of much benefit. This plant acts primarily on the nervous centres, and in full doses produces staggering in the gait, dimness of sight, and double vision. In one of my patients who was taking it, the double vision was due to paralysis of the mo-

tor oculi of each eye, which passed off soon after the drug was suspended. The most convenient form for administration is the fluid extract, the dose of which is about fifteen drops three times a day, gradually increased until dimness of vision or staggering in the gait is perceived.

The following formula is recommended by Prof. Wm. P. Seymour, of Troy:

R. Ext. Gelsemii, fl. ℥ij	8'00
Spiritus Ætheris, Nit. ℥ij	55'00
Tinct. Cubebæ, ℥j	30'00
Spt. Lavandulæ Comp., ℥ss	15'00
Aquæ, q. s. ad ℥iv	120'00
M. ℥j (4.00) every six or eight hours.	

The oil of yellow sandalwood is a very valuable internal remedy for gonorrhœa, which was first introduced to the notice of the profession in 1865, by Dr. Thomas B. Henderson, of Glasgow.¹ I have found it quite as efficacious as copaiba, if not more so, and it is far more acceptable to the stomach. The dose is from fifteen to thirty minims, three times a day, taken on lumps of cut sugar, in water, or in a mixture with alcohol and cinnamon:

R. Olei Santali Flavi, ℥j	32'00
Spiritus recti, ℥ij	90'00
Olei Cinnamomi, ℥xxiv	1'60

M. et Sig.—From one to two teaspoonfuls (5.00–10.00) three times a day.

This oil is now put up in capsules; from twelve to twenty are to be taken daily.

I have known of a number of cures of gonorrhœa with the oil alone. Sometimes, like copaiba, it produces pain in the kidneys, and must be suspended.²

I have tried the oil of erigeron as recommended by Dr. J. T. Prettyman, but without favorable result.³

Gurjun Balsam has recently been prescribed with success at some of the hospitals of Paris.⁴ It is said to act more rapidly than copaiba, and to have no disagreeable affect on the breath.

The following is Vidal's formula, as used at the Hôpital St. Louis:

Gurjun Balsam, 4 grammes (1 drachm);
Gum, 4 grammes (1 drachm);
Infusion of Star Anise, 40 grammes (10 drachms).
To be divided into two doses, and taken directly before meals.

I can speak very favorably of *Cannabis sativa* as an internal remedy for gonorrhœa after the more acute symptoms have subsided. It is to be given in the form of the mother-tincture (one part of the fresh

¹ Glasgow Medical Journal, 1865.

² See articles by M. Panas, Union méd., Paris, Sept. 23, 1865; and by Dr. H. H. A. Beach, Bost. Med. and Surg. Journ., Nov. 5, 1868.

³ Am. Journ. Med. Sci., July, 1866.

⁴ Bull. gén. de thérap., Paris, Feb. 28, 1878.

plant to two parts of alcohol, by weight), in doses of ten to fifteen drops, in water, three or four times a day.

During the administration of copaiba, cubeba, or any other drugs which act by their presence in the urine, the patient should drink but little fluid, so that the urine may be undiluted and as fully charged as possible with the remedy.

Expectant Treatment.—In a work like the present, which is intended to give the views of other authors as well as our own, it would be unjust to the reader to omit saying that the treatment above recommended is in several respects at variance with that advised by some authorities of the highest eminence. I refer to the present teachings of the French school, and especially to those of Fournier and Diday.

The treatment adopted by these surgeons is, to a great extent, an *expectant* treatment, and may be stated as follows: In the first place they do not believe in the efficacy of copaiba and cubeba, nor in urethral injections during the acute stage of the disease, or even while any decidedly puriform discharge remains. They believe that these means may repress the discharge for the time being, but that the latter will return in full force as soon as the former are stopped; moreover that their use at this time so habituates the stomach and urethra to them, that they can be used to much less advantage at a later period, when their action would otherwise be speedily effectual. Hence, Diday lays down the following rule: "Tell every patient who comes to you at a time when the acute stage of clap is established, that he must wait a month or six weeks before it is possible to give him specific remedies with advantage."

Meanwhile, while waiting for the clap to become "ripe" enough, as Diday expresses it (to be plucked?), these surgeons prescribe attention to hygiene, "a full bath every third day," "several local baths of cold water daily," "avoidance of beer, white wines, and Vermouth;" "pure wine, coffee, liqueurs, pork, and spiced dishes only in moderation," together with "a glass of water, four or five times a day, either sweetened with syrup or orgeat, or with a pinch of the following powder:

R. Sacch. albi,	
Pulv. Acaciæ, āā ʒij	60
Pulv. Glycyrrhizæ,	
Pulv. Potass. Nitræ, āā ʒiss	6
M."	

If in spite of this treatment the inflammation should increase, without, however, attaining its maximum intensity, "Order five or six glasses a day of a ptisan of couch-grass (*chiendent*), and strawberry root (*racine de fraisier*), sweetened with syrup of liquorice. Every second day, before going to bed, take a bath and remain in it for an hour and a half. Two or three times a day, bathe the penis

¹ Thérapeutique des mal. vén., 1876, p. 12.

with a warm infusion of marshmallow. Sprinkle the inside of the suspensory bandage worn with powdered camphor," etc., etc., etc.

When the inflammation has reached its height, "apply eight leeches to the perinæum. Remain in bed or at any rate in your room. When walking keep the penis elevated. Drink two or three pints daily of flaxseed tea, or a ptisan of the white water-lily. Take a full bath every day, lasting from two to three hours. Frequent local baths of an infusion of marshmallow. Pass water with the penis immersed in warm water. Avoid every occasion, physical and moral, for erections. *Keep your bowels open.*

"A clap must not be considered ripe, simply because such time has passed as is regarded as the ordinary term by the patient, influenced by theoretical considerations, prejudices, or his own convenience. Each clap has its own course; and although we may usually reckon on five or six weeks for it to attain maturity, this period is sometimes shorter, and very often longer; frequently it amounts to two months and a half or three months, and in one case under my care it was eleven months. How shall we ascertain that a clap is ripe? It is ripe when there is little or no pain in passing water and in erections, when the meatus is no longer red nor tumefied; when the discharge has much diminished, and, instead of being yellow or green, is white and somewhat sticky. This last feature is characteristic, and, since it cannot appear without the other signs of maturity existing, it, of itself, is a résumé of all the signs, in a diagnostic point of view; so much so that, in any case of clap, if the discharge, collected a sufficiently long time after an erection and held between two fingers, will stretch between them as they are separated to the extent of four-tenths of an inch (meter 0.01), we are authorized to pronounce that clap ripe" (Diday, loc. cit.).

The clap having been found or supposed to be "ripe," copaiba and cubeba, aided or not by urethral injections, are to be used vigorously for a week or a fortnight. If, after the lapse of this time the patient is not well or his discharge nearly gone, "stop the treatment at once, its continuance would be a mistake; the reason it did not succeed was that it was premature; make up your mind then to wait; return for a time to demulcent drinks; then try again suppressive medication, as soon as it shall appear to be indicated" (Fournier). Copaiba and cubeba would appear to be more relied upon by these surgeons and others of the French school than urethral injections. The statements of patients are always to be taken *cum grano salis*; hence I cannot fully rely upon the word of a recent patient returning from Paris who said an eminent French surgeon told him that urethral injections were nearly obsolete in France.

As said in commencing, the above treatment recommended by Fournier and Diday is in the main *expectant*. Aside from rest and hygiene, the means recommended while waiting for the claps to become "ripe" can have little if any effect. I will not say but their course is the best. The cases which everybody meets with, of a clap

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