

With references to vegetable food, ordinary bread, plain or toasted, or plain biscuits, are, of course, permissible. He finds it hard to understand why potatoes should have ever been forbidden; plainly cooked, they are quite harmless. The assertion that roots and vegetables grown underground are harmful he says is rubbish, and fruit is condemned on very inadequate grounds. Most gouty persons can take fruit cooked or raw in moderation, not only with impunity, but with benefit. Tea, coffee, and cocoa are quite harmless. Sugar taken in moderation is not only harmless, but beneficial. Wines and alcoholic liquors require much discrimination. Many gouty persons are best without any, but the fact remains that many others are better for the use of a little good wine taken with one meal in the day. There can be no universal rule as to kind or amount. Most varieties of malt liquors are harmful to the majority of gouty patients, but in summer many persons can take small quantities of the lighter varieties, such as beer, with impunity and benefit. Well-prepared cider is an excellent drink in warm weather for gouty patients, but the quantity should not exceed a pint. He lays great stress on individualizing in cases of gout, and says that curtailing the food and sending patients away to spas is generally harmful.

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**Treatment of Gout.**—DR. ARTHUR P. LUFF (*Practitioner*, July, 1903) says that gout is a disease that is due to faulty metabolism, probably both intestinal and hepatic, as a result of which certain poisons ("possibly the purins and other bodies, but of which we at present know but very little, lead to auto-intoxication, which is an early factor in the development of the gouty condition"). He thinks that with increasing knowledge and experience of the disease uric acid and its salts will in all probability have to be relegated to a position of subsidiary importance in the pathogenesis of gout. The joint manifestations are probably dependent upon much more general and much larger conditions than a mere excess of uric acid in the blood. The deposition of sodium biurate is possibly merely the sign of the disease, not the essence of it.

As regards the treatment of gout, he said that it should be borne in mind that no routine line can be laid down that can be adopted suitably to all cases. Individualism—the treatment of the patient rather than the disease—is the prime feature. The treatment of gout, in his mind, should have for its aim the following objects:

(1) The treatment of the gouty paroxysm in cases of acute gout, and the relief of pain as speedily as possible; (2) the treatment of the subacute or chronic condition and the prevention of the recurrence of an attack, which may be effected by the promotion of the elimination of the uric acid and the other purin bodies, by checking any excessive formation of these bodies that occurs in some subjects, and by careful attention to diet and general hygiene; and (3) the treatment of the affected joint or joints with the object of removing the uratic deposits and of preventing permanent deformity. For the treatment of the gouty paroxysm the limb should be placed in the horizontal position, or slightly elevated above the level of the body, and a cradle should be arranged so as to take the weight of the bed-clothes off the affected part. To alleviate the severe pain felt in the affected joint warm-packs should be arranged around it, consisting of cotton-wool saturated with a soothing

lotion, and then lightly covered with oiled silk. He has found the following lotion most useful in relieving the local pain:

R.—Sodii carh.	. . . . .	℥iv.
Linim. helladonnæ	. . . . .	℥ij.
Tinct. opii	. . . . .	℥iss.
Aq.	. . . . .	ad ℥viiij.

A small portion of the lotion should be mixed with an equal quantity of water, and then poured on the cotton-wool previously arranged around the joint. The pack should be changed every four hours. In connection with the acute paroxysm no attempt at local depletion—such as the application of leeches to the inflamed joint, blistering, or incisions—should on any account be made, owing to the liability of thereby extending the inflammatory condition, and so producing subsequent ankylosis or deformity.

For the internal treatment of acute gout colchicum is one of the most valuable of drugs. It should be especially used for acute gout and for sub-acute attacks supervening on chronic gout. If it be used continuously, tolerance is apt to be acquired, and the drug ceases to act. At the commencement a large dose of 30 or 40 minims of the wine with from 40 to 60 grains of citrate of potassium should be administered three times a day. The citrate of potassium, which is given for its combined properties of acting as a diuretic and of diminishing the acidity of the urine, may, if desired, be given as an effervescent mixture, using 30 grains of potassium bicarbonate to 20 grains of citric acid. Colchicum reduces the gouty inflammation, relieves the pain, and shortens the attack. It should only be taken under medical advice, and should never be given in such doses as to produce extreme depression. After the inflammation of an acute attack has subsided the doses of colchicum should be diminished until it is left off. From 3 to 4 grains of "blue pills" should be given the first night, followed by a dose of Epsom salts in the morning. Mercury should be given only in sufficient doses to produce its cholagogue effect, as owing to the possibly defective action of the kidneys the mercury absorbed into the general system may be eliminated with great difficulty. In his opinion it is advisable in the treatment of gouty patients in the acute or subacute stages to avoid the use of saline purgatives owing their efficacy to salts of sodium, on account of the power possessed by all sodium salts of diminishing the solubility of sodium hiurate. In the employment of purgatives for gouty patients the great object is not to produce powerful purgation, but to relieve portal congestion, since a congested condition of the liver means that excessive quantities of glycogen and purin bodies remain in the circulation, with the consequent production of an excessive quantity of uric acid. A pill containing either 2 grains of enonymin or  $\frac{1}{4}$  of a grain of podophyllin, combined with 1 grain of extract of hyoscyamus and  $1\frac{1}{2}$  grains of the compound extract of colocynth, will in many cases be found to be very useful.

If the pain of an acute attack of gout is so severe as to prevent sleep, chloral, sulphonal, or trional may be given, or a full dose of extract of hyoscyamus given with blue pill at night will in some cases act as a very useful anodyne. The administration of opium or morphine should, if possible, be avoided, owing to the risk of its deficient elimination, and also on

account of its diminishing the amount of urine, and its tendency to derange digestion and check hepatic metabolism.

The means of checking the excessive formation of the purin bodies consist in careful attention to diet and regimen, in the production of the metabolism of the liver, so as to check the excessive production of the antecedents of uric acid, and in the relief of congestion of the portal system, which can be effected by keeping the bowels open at least once a day. In addition to colchicum, which may be given in small doses, guaiacum may very usefully be administered as an alterative, which stimulates the metabolism of the liver and also affords relief to the portal system. From 5 to 10 grains of guaiacum resin should be given in cachets two or three times a day, according to the effect on the bowels, since guaiacum sometimes acts as a laxative. The method of administering the powdered guaiacum resin in cachets is far preferable to giving the tincture of guaiacum in a mixture, as in the latter form a nauseous mixture is produced and the precipitated resin tends to cling obstinately to the tongue and fauces. In cases of chronic gout the colchicum may very conveniently be administered in the form of a pill, given three times a day, containing  $\frac{1}{10}$  of a grain of colchicine, combined with  $\frac{1}{2}$  of a grain of extract of nux vomica and 1 grain of extract of gentian. Colchicine, however, should not be given in cases of marked interstitial nephritis, as in such cases a fatal result has been known to follow its administration in medicinal doses. If constipation occur a sulphur and guaiacum tablet or a dose of compound licorice powder should be administered at night. An occasional dose of hine pill and euonymin, followed by a purge of Epsom salts, will be found useful. If the patient is suffering from atony and debility of the stomach nux vomica or strychnine may be given with potassium citrate. Iron preparations are not, as a rule, well tolerated by the gouty, but if anæmia is present the citrate of iron and ammonium or the carbonate of iron will be found the best to administer. Regarding the use of alkalies and the salts of alkalies, he says that of the potassium salts used in the treatment of gout the citrate and the bicarbonate are the two most commonly employed. As to the beneficial effects of employing a potassium salt in conjunction with colchicum in the treatment of acute and subacute gout he is fully assured, and he has found that of the various potassium salts the citrate is the most useful. If given in sufficiently large doses it tends, by its conversion in the kidneys into the carbonate, to diminish the acidity of the urine, which is generally high in connection with the gouty paroxysm, while at the same time it increases the solvent power of the urine for the uric acid salts, and so assists their elimination. In addition, as he has experimentally shown, the presence of a potassium salt both delays and inhibits the conversion of the soluble gelatinous sodium hiurate, which is the form in which the hiurate is first present in the blood, into the comparatively insoluble crystalline hiurate. In this way the deposition of the latter in the tissues is inhibited, and so further time for the elimination of the hiurate is offered. He does not, however, wish to contend that the above-mentioned are the only explanations of the beneficial action of potassium salts in the treatment of gout. In addition, they have their uses in the gouty state on account of their stimulating action on metabolism, of their remedial action on the gastric and hepatic functions, and

of their diuretic effect. As regards the use of sodium salts, they are certainly beneficial in some gouty conditions, but since they are directly detrimental to the removal of gouty deposits, he is of the opinion that those mineral waters should be avoided which owe their activity to those salts when the removal of gouty deposits is the main object of treatment. But in cases of sluggish action of the liver, of gastrointestinal catarrh and torpor, of gouty dyspepsia, and of other forms of irregular gout where there are no appreciable uratic deposits in the joints, mineral waters containing sodium salts are undoubtedly beneficial, owing to the action of those salts as hepatic and gastrointestinal stimulants. As regards the use of lithium salts in the treatment of gout, his opinion is that they are not so useful as the potassium and sodium salts. The lithium salts have not the same inhibiting effect on the conversion of gelatinous sodium biurate into the crystalline form as the potassium salts have, while at the same time they have no better solvent effect on gouty deposits. The great objections, however, to the use of the lithium salts is their greater toxicity and depressing action on the heart as compared with the potassium salts. They consequently have to be given in very small doses, and thus he is very doubtful as to whether in such doses they possess any remedial effect at all. On the other hand, he frequently meets with patients suffering from cardiac depression as the result of the excessive and continued consumption of lithia tablets, which are so persistently, so speciously, and so wrongly vaunted as curative of gout. Cataploresis is useful in many cases of chronic gout with considerable deposits in the joints, and also in many cases of obstinate rheumatoid arthritis.

As far as the preventive treatment of gout is concerned, Dr. Luff has now had a considerable experience of the prophylactic effects of gualiacum resin, and he says that he knows of no drug that is more useful in the preventive treatment of gout. Its action is probably due to its stimulating effect on hepatic metabolism, thereby increasing, as it undoubtedly does, the elimination of uric acid. The form in which he prefers to give it is that of the powdered resin in cachets, commencing with doses of 5 grains three times a day after meals, and gradually increasing the dose to one of 10 or 12 grains. In this form it can be taken without any discomfort to the patient, whereas if administered in the form of the tincture in a mixture a most nauseous medicine results. Quinic acid is a comparatively new drug, which in various forms of combination has been put forward as possessing some beneficial action in the treatment of gout. It diminishes the output of uric acid in the urine, but simultaneously increases the secretion of hippuric acid. His experience of the different combinations of quinic acid is somewhat limited, but so far he is inclined to think that they are of decided use in the treatment of certain forms of chronic gout. The administration of fruits frequently reduces uric acid excretion, a result which has been attributed to the effect of quinic acid. Gowland Hopkins considers that this diminution is due to interruption of some synthetic process rather than to a mere effect on excretion.

The diet of gouty patients should be simple, that is, the meals should not be made up of too many articles. Simplicity of food means facility of digestion. Certainly meat, even red meat, should not be excluded from the diet. No class of food-stuff is so productive in energy as animal food; and as most

cases of chronic gout are suffering from lowered vitality and want of tone, animal food, at all events in moderate quantity, is distinctly indicated. The author's experience supports the truth of this view, as he has advised in the great majority of cases of chronic gout the taking of at least one meat meal a day. The exclusion of any article of diet or of any class of food without taking into account the surroundings of the case and the peculiarities of the individual is unscientific. The value of a given mineral water in the treatment of gout depends greatly on the main object with which it is taken. For instance, it may be taken to remove gouty deposits, or to stimulate the action of a sluggish liver and to relieve portal congestion, or for the treatment of gouty dyspepsia, or to relieve the bowels in cases of torpor and gastrointestinal constipation, or to act on the kidneys, or to relieve gouty affections of the skin. Now it is manifest that any one mineral water is not likely to produce all these effects, and it is also obviously conceivable that a mineral water which might be most useful to effect one of these purposes might prove most injurious if employed to effect another. No doubt considerable error has arisen from indiscriminately sending gouty patients to a particular spa without giving due consideration to the question as to whether the water of that spa is suitable for the treatment of the specific gouty disorder from which the patient is suffering. Moreover, it is well to bear in mind that a patient should not be sent to a spa during the acute stage of gout, nor if suffering from marked organic disease of the heart or kidneys. A fairly bracing air with a low relative humidity is, in the experience of the author, the most suitable for the gouty. High mountain situations and valleys where there is an excessive relative humidity of the air are alike unsuited to the gouty. Especially is it desirable to avoid exposure to the cold east and northeast winds which prevail in this country in the early months of spring, and which are so apt to be provocative of what has been called a "chill on the liver," a condition which no doubt is brought about by the chilling effects of these winds on the skin, and a consequent reflex affection of the metabolism of the liver cells. As a winter resort for the gouty he knows of no better climate than that of Egypt, where, at Helwan (Helouan), thermal, sulphurous, and saline waters exist, and excellent baths are obtainable. The air of Helwan is that of the desert; the average winter temperature is 60° F.; the relative humidity from November to April is only 30 to 60 per cent., while the average rainfall for four consecutive winters was only three-quarters of an inch. For the spring, summer, and autumn months we fortunately have for our selection a large number of health resorts in this country and on the Continent, the climates of which are well suited to the gouty. The author's experience is that residence by the sea is not suited to most cases of gout, and this especially applies to cases of gouty eczema.

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**Blood-letting in Uræmia.**—DR. M. JAERISCH (*Münchener med. Wochenschrift*, 1903, vol. xxix., No. 13, p. 232) communicates an observation on a young girl of seventeen years who had acute nephritis of unknown origin. Notwithstanding careful medication, the patient was attacked with grave uræmic convulsions, there occurring between seven o'clock in the evening and five o'clock in the morning no less than forty-seven crises. She was promptly bled; 500 grams of blood were taken from her, followed by the