of a malarial type. For many years after its introduction into Spain the Jesuits had the bark sent to them by their brethren in Peru and carefully kept the source of its origin a secret, and the substance, therefore, became widely known as Jesuits' bark. Being virtually introduced as a nostrum, or secret remedy, it need not surprise us when we find that it has frequently taken a most important part as one of the component parts of a number of nostrums, even down to our own times.

Quinin, the most valuable of the alkaloids of cinchona, was discovered by Pelletier and Caventou in 1820, and is to-day one of the few substances in medicine that has met with a constantly increasing popularity. Quinin is official under no less than six different titles, in addition to the several scale salts and preparations that are not of direct interest in connection with its peculiar uses in malarial fever.

QUININA.—U. S.—Quinin.

QUININÆ BISULPHAS.—U. S.—Quinin bisulphate.

QUININÆ HYDROBROMIDUM.—U. S.—Quinin hydrobromid.

QUININÆ HYDROCHLORIDUM.—U. S.—Quinin hydrochlorid.

QUININÆ SALICYLAS.—U. S.—Quinin salicylate.

QUININÆ SULPHAS.—U. S.—Quinin sulphate.

Average dose of each of these preparations: 0.25 gm. (4 grains).

The physical properties of the several salts of quinin are so well known that they do not require a description at this time. The reasons for the popularity and use of some of these salts are not always apparent. In America the sulphate is used almost exclusively, while on the continent of Europe the hydrochlorid appears to be given the preference in all cases. That each of the several official preparations of quinin has some particular points of merit is suggested by the following table, showing the relative percentage of anhydrous alkaloid quinin in each and also the relative solubility in water and in alcohol:

	Per cent. of anhydrous quinin.	Solubility in water.	Solubility in alcohol.
Quinin	85.5	1750.	0.6
Quinina bisulphate	59.5	8.5	18.
Quinin hydrobromid	76.6	40.	0.7
Quinin hydrochlorid	81.5	18.	0.6
Quinin salicylate	69.9	77.	11.
Quinin sulphate	74.3	720.	86.

It will be noted that the very commonly used sulphate, next to the alkaloid itself, is the least soluble in the most common of all solvents, water; this, while a decided advantage so far as masking the taste of the salt is concerned, is a marked disadvantage in attempting to make a solution of the salt. Where quinin sulphate is to be given in solution it must be given in an acid mixture or in solutions that are so dilute that the quantity to be taken would be nauseating.³

The more satisfactory method of administering quinin in the comparatively large quantities that are usually given is in cachets, gelatin capsules or pills.

The use of quinin as a destroyer of the protozoön which causes malarial fever is among the best established facts of therapeutics. It is mentioned here largely to avoid the criticism of incompleteness rather than to offer any suggestions of novelty to the general practitioner.

If fairly large doses of quinin be given four hours before the time at which the chill of malarial fever is expected to occur, and the dose repeated in two hours, the maximum effect of the quinin on the organism is obtained and the chill is usually prevented. The quinin existing in the blood at the time that

sporulation occurs destroys the newly liberated organisms and the blood is rendered aseptic so far as that particular organism is concerned. This process has to be repeated at intervals, sometimes for three or four weeks.

The use of salicylates in articular rheumatism is almost as well established as is that of quinin in malarial fever. The precise mode of action is not known, but it is surmised that its action is somewhat analogous to that of quinin. We may be permitted to add a list of the official preparations that would properly come under this heading, just to show the extensiveness as well as the variety of the official preparations. Surely such a variety as we find here should enable us to choose the appropriate remedy of this type without the necessity of having recourse to any of the nostrums.

ACIDUM SALICYLICUM.—U. S.—

Average dose: 0.5 gm. (7½ grains).

SODII SALICYLAS.—U. S.—

Average dose: 1 gm. (15 grains).

AMMONII SALICYLAS.—U. S.—

Average dose: 0.25 gm. (4 grains).

LITHII SALICYLAS.—U. S.—

Average dose: 1 gm. (15 grains).

STRONTII SALICYLAS.—U. S.—

Average dose: 1 gm. (15 grains).

PHENYLIS SALICYLAS.—U. S.—Salol (U. S. P., 1890).

Average dose: 0.5 gm. (7½ grains).

METHYLIS SALICYLAS.—U. S.—

Average dose: 1 c.c. (15 minims).

OLEUM BETULÆ.—U. S.—

Average dose: 1 c.c. (15 minims).

OLEUM GAULTHERIÆ.—U. S.—

Average dose: 1 c.c. (15 minims).

SALICINUM.—U. S.—

Average dose: 1 gm. (15 grains).

The use of mercurials in syphilis requires a much more extensive treatment of the subject than we can accord it in this connection, and the preparations that are usually employed are too well known to require further mention at this time.

Clinical Notes

UNRECOGNIZED EPILEPSY.

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The frequency with which certain forms of epilepsy go unrecognized for years constitutes a disquieting element in the successful treatment of a disease difficult to cure under the earliest diagnosis.

1. A leading reason why certain types of minor epilepsy are not infrequently overlooked, or, being more or less casually observed, are ignored, is that we, too, often make the mistake of regarding epilepsy as "a disease characterized by tonic or clonic convulsions and followed by loss of consciousness." This faulty definition is rapidly becoming obsolete. I believe a better definition is this:

Epilepsy is a disease or disorder affecting the brain, characterized by recurrent paroxysms, which are abrupt in appearance, variable in duration, but generally short, and in which there is impairment or loss of consciousness, together with impairment or loss of motor co-ordination *with or without convulsions*.¹

The fact that this definition is comprehensive enough to include all varieties and subvarieties of epilepsy tends to rob it of scientific accuracy when applied to any particular form of the disease. But this is unavoidable, for it is more difficult to formulate a true definition of epilepsy than it is to define insanity.

1. Spratling: "Epilepsy and Its Treatment."

3. It is truly surprising that the sulphate of quinin continues to be used to the almost complete exclusion of the alkaloid and the other salts. When a tasteless mixture is desired the alkaloid is preferable because it is less soluble than any of the official salts; if it is necessary to administer the drug in solution, ten grains of the hydrochlorid may be given in a teaspoonful of a mixture containing 50 per cent. of alcohol, while three grains of the hydrochlorid, or seven of the bisulphate may be given in a teaspoonful of a watery mixture. The following is a type of the usual acid mixture:

R. Quinin sulphatis	grs. lxxv	5
Acid. hydrochlorici dil.	m. lxxv	5
Elitx. aromat. q. s.	℥i℥ 100	

When the salt, or better, the alkaloid, is to be given in a mixture, and the taste is to be masked, acids should never be added. Instead of the acid, a sweet substance, like glycyrrhizin, should be used to mask the bitter taste of the quinin. A satisfactory mixture is obtained as follows:

R. Quinina vel quininæ sulphatis	grs. lxxv	5
Fld. ext. glycyrrhizæ.	℥iv	15
Syrup et elix aromat. ña q. s.	℥i℥ 100	

2. A second leading reason why epilepsy is not earlier recognized in many cases is because the gravity of its incipient manifestations is not appreciated and because "weaknesses," "faints," "worm fits," "teething fits," "stomach fits," "lapses" and the like are often erroneously held to be innocent in character when they should always be looked on in the most serious light. During the past ten years more than 200 cases of well-defined epilepsy have come under my observation in which the disease had its origin in the innocent convulsive manifestations of early life, these manifestations being taken at their apparent rather than at their real value, and there being at the same time a general failure to respect the convulsive tendency of the individual, genuine epilepsy was sooner or later the inevitable result.

The keynote to the whole situation is in mistaking apparently innocent phenomena for phenomena of the gravest import. Muscular contractions and distortions are nothing in the prognosis of epilepsy compared to the disastrous form of the disease that may be so silent in its appearance, course and termination as wholly to escape unskilled observation. We are just beginning to learn a great truth in the treatment of epilepsy similar to the one it took us hundreds of years to learn about tuberculosis; and that is that freedom from the disease is often but little more than a matter of right living.

If a child who has "weaknesses," "faints," "worm fits," "teething fits," "stomach fits" or other lesser convulsive manifestations (no matter by what name they may be called), even though they apparently disappear for good with the passing of infancy or of childhood, the convulsive tendency of that individual must be respected so long as the individual lives, and particularly must this tendency be respected at certain critical epochs, such as the first and second dentition periods, during attacks of the specific fevers and at puberty—the latter the most of all, for from the twelfth to the sixteenth year, inclusive, constitutes the greatest epileptic age.

I make a plea for the early recognition, proper and prolonged treatment of the convulsive manifestations of infancy and early life that so often later pass into genuine epilepsy.

A NEW ANASTOMOTIC CLAMP.

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The instrument presented here is designed for use in suture anastomotic work. It was originally intended for use in the operation of gastroenterostomy, but it will probably prove equally as efficient, if not more so, in enteroenterostomy.

When two clamps are used the difficulty encountered by the assistant in maintaining the proper relative position of the two portions to be united, sometimes becomes a source of annoyance to the surgeon, occasionally even leading to actual damage to the tissues. In every case it requires the entire use of both hands of the assistant, preventing his being of service in other ways.

The clamp which I have designed is expected, in the majority of cases of this class, to replace the two clamps which have hitherto been required, and the slight loss of time, if there should be any, in adjusting the new instrument in position, will be more than regained later in the operation, because the assistant will be able to save time by doing his share of the work.

As shown in Figure 1, the clamp consists of three parts—a central blade which is reversible and two blades which are interchangeable in an instrument with straight jaws, but which become right and left in a curved-jaw clamp.

The lock is a double Collins, permitting of easy separation and removal of the blades.

In a case of posterior gastrojejunostomy, for example, the stomach is grasped as usual at the desired angle, between the blades "a" and "b," Figure 2, which are then locked at the desired tension, thus virtually forming a single blade carrying the fold of stomach.

Figure 1.

The handle is now carried around to the new angle, parallel to the line "x-y" in Figure 2, or as near to it as the tissues will permit. The intestine is picked up by the fingers, or by an intestinal clamp applied in the desired line of incision, and raised up to its position against the blade "b." Blade "c" is placed into the lock which is uppermost and brought round until it clamps against "b" with the result shown in Figure 3.

Figure 2.

A strip of gauze sponge is placed along the middle blade and the operation is completed as if two clamps had been used, but much more easily.

After the anastomosis has been made blades "c" and "a" may be removed, leaving "b" in place until the field has been examined for bleeding, etc., when it may be withdrawn.

Figure 3.

In trying to hold two clamps in position there is a varying tension on the stomach which is productive of much annoyance to the anesthetist, but this style of clamp does not require that effort and supports itself on the edges of the incision with a constant tension on the stomach. It does not have to be touched from the time it is applied until the anastomosis is complete.

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