Papers Presented to Local Branches

THE MAKING OF CANDY MEDICINES.*

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The problem of pleasant medication for adults is well taken care of by the pill, the capsule, and the elixir; but with children our means have been much less satisfactory. "I simply cannot get my child to take this medicine," is the report one often receives from the fond and too indulgent parent, sometimes when the medicine was really unobjectionable or even pleasant. To some children anything given by spoon carries with it the idea of nastiness. This lead me, in view of the child's great love for candy, to experiment upon devising candy forms for medicines. Starting with confection of senna, I soon discovered that children did not consider it a confection. Evidently there is a great difference between the pharmacopœial and the child's idea of a confection. The pharmacopœial lozenges, with the exception of the santonin troches, were likewise unsatisfactory. So I took lessons from a real confectioner to determine what candy form would be most suitable for purposes of medication. Sulphur taffy and cod liver oil chocolate creams were failures. As a result of these studies in the candy shop I finally arrived at the following conclusions: (1) Candy medicine to be successful must be absolutely pleasant and must disintegrate rapidly in the mouth, for a sick child will usually not suck or chew a candy as a healthy one would. (2) Only tasteless or almost tasteless medicaments can be given in candy form. (3) The fondant is the most suitable form for the purpose of candy medication, as it disintegrates rapidly. (4) As the fondant is rather troublesome to prepare and becomes hard with age, while a lightly compressed tablet made from powdered sugar is very similar to the fondant and keeps well, the latter is evidently the practical form for candy medication. This form has already been in use for the administration of calomel and of phenolphthalein.

A systematic search showed that quite a number (about twenty) other medicaments could be put up in candy form; and use of these in practice has been so pleasing, that I would be very sorry indeed if I had to get along without them. I believe that candy medication has a future, but am afraid that this future will be in the form of proprietary exploitation and of self dispensing by physicians, unless pharmacists equip themselves to prepare these tablets.

In the past, pharmacists seem to have been afraid to attempt tablet making. It is generally supposed to be a difficult process, requiring special skill and expensive machinery. With your permission, I shall proceed to demonstrate that this is not the case. A tablet machine that would be satisfactory for putting up

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prescription quantities of tablets, e. g. Whitall Tatum Company's, can be bought for about $10. It will work satisfactorily, if the punches are kept clean, free from scratches, and slightly oiled with liquid petrolatum. It takes no more time or skill to make tablets than it does to make pills or suppositories. Preliminary granulation and drying are not necessary, if A. Schleimer's suggestion (published in *The National Druggist,* Feb., 1909, p. 54) is made use of, to add 3 percent. of cacao butter to the powder, which serves at once as a cohesive, rendering granulation unnecessary, and as a lubricant, preventing sticking in the die. The only objection to the cacao butter is that it is liable to become rancid, hence it is suitable only for the extemporaneous preparation of tablets. Have found, after a little experimenting, that low melting paraffin answers the purpose just as well as cacao butter, and does not become rancid. A further addition of 3 percent. talcum powder is likely to become necessary to keep the tablets from "picking," i. e., sticking to the punches.

As a typical example of a formula for a candy tablet, we may take:

ARSENIC TRIOXIDE, 1/100 GRAIN.

Arsenic trioxide	1 grain
Paraffin, low melting point	9 grains
Talcum	9 grains
Malachite green, 1% solution	10 minims
Spirit of peppermint	5 minims
Powdered sugar	281 grains

Having thoroughly triturated the arsenic trioxide with the sugar, add the malachite green solution and the spirit of peppermint and triturate until the green color is perfectly uniform. Then add the paraffin and triturate again. Finally, the talcum is added, not by trituration, however, but by stirring with a spatula; and the powder is ready for compression in the tablet machine. Use 5/16 inch die and punches, and make from above quantity 100 three-grain tablets.

The same formula may be used for making candy tablets of tartar emetic, calomel, mercury biniodide, mercury protoiodide, mercury with chalk, nitroglycerin, elaterin, hyoscine. Of course any other harmless coloring or flavoring may be used.

Insoluble substances that are given in larger doses, such as bismuth subnitrate, chalk, magnesia, saccharated iron carbonate, or reduced iron, require at least twice the volume of sugar to be added to them to keep the insolubility of the powder from being noticeable.

Substances that have a slight taste, such as tannalbin, phenacetin, or digitoxin, are best disguished by the addition of 10 percent. of powdered cacao to the sugar. Chocolate tablets can usually be compressed without the necessity of adding cacao butter or talcum. Their flavor is improved by the addition of a little tincture of vanilla or of vanillin.

The most tasteless form of quinine I have been able to find is aristochin, which is considerably less bitter than euquinin or quinine tannate. The slight bitterness of aristochin is almost entirely overcome by the addition of a small amount (2 or 3 percent.) of sodium bicarbonate, and of cacao and sugar in the proportion previously mentioned.

The only sufficiently tasteless salicylate I have been able to find is salophen, which is easily made pleasant by the mere addition of sugar.

Of soluble substances very few are suitable to candy medication. Sodium bicarbonate one-half grain to four and one-half grains of sugar with rather strong peppermint flavoring makes a fairly palatable tablet. Hexamethylenamine, which has a sweetish taste, can be made into a very pleasant chocolate tablet by using the following formula:

HEXAMETHYLENAMINE, ¼ GRAIN.

Hexamethylenamine	25 grains
Cacao powder	75 grains
Powdered sugar	400 grains
Tincture of vanilla	15 minims

Make into 100 five-grain tablets.

For the salines,I have not been able to devise a candy form. Have therefore selected sabromin and sajodin, which are the most tasteless representatives of bromides and of iodides, respectively, that I know of. These are easily put up in the form of palatable tablets, especially by the use of cacao.

One objection that can be urged against candy medication is that children might poison themselves by eating too many of them at one time. This is indeed a serious objection, which can, however, easily be overcome by not prescribing more tablets than could be taken at one time without danger.

In the candy tablet, Dr. Robert M. Fuller's invention has reached its highest utility. Perhaps some day candy tablets may be official in the Pharmacopœia. If all druggists were equipped to prepare them extemporaneously, so that doctors could modify the dose and combination to meet the needs of the case, they would obtain their highest opportunity for doing good, and would fill a long felt want.

THE PHARMACY OF THE OXYCHOLESTERIN OINTMENT BASES.*

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The history of the discovery of what is termed a mixture of iso and oxycholesterins or waxy alcohols is one of manifest interest and the details of which were ably presented by Dr. Unna before this branch at the meeting last June.

In so far as the chemistry applies to these compounds, little appears in the literature, but their peculiar properties in relation to the therapeutics of ointments will no doubt furnish an incentive for wider knowledge.

From the pharmaceutical point of view we are particularly interested, and the little that is known concerning them is of great value, and the possibility and even probability of these compounds finding a wide field of usefulness, makes it necessary that the pharmacist to some extent become acquainted with their pharmaceutical applications for which they may be desired.

The first question that presents itself is what are the iso and oxycholesterins,

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