MEDICATED LOZENGES.*

By PROSSER JAMES, M.D.,

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SOME of the lozenges of the *British Pharmacopœia* are only of use for their constitutional effects; they are, in fact, merely dosed general remedies. Others, however, are most valuable for their local action. It is obvious that these two qualities may often be combined. For special topical use, lozenges should possess the following qualities: 1. They should dissolve slowly in the mouth, so that the resulting solution of the medicament may remain as long as possible in contact with the mucous membrane; 2. They should possess a certain degree of softness, so as not to hurt the diseased surface mechanically; 3. For the same reason, their shape should be without corners; 4. Their flavour should be agreeable, or as little distasteful as possible; 5. They should keep without change for an indefinite period, as they cannot be advantageously made in small quantities.

The lozenges of the *B.P.* are most defective, on account of their hardness. They irritate the mucous surface; and the sharp corners of some shapes in common use, or of the broken pieces of others, may enlarge ulcers, tear congested membrane, or do other injury. Of course, when used for their constitutional effect, these objections may scarcely apply. A softer consistence has been attained by the employment of fruit-paste, as in the favourite black currant lozenges; and this substance has been more extensively used of late years. Extract of liquorice, as in "Pontefract cakes" and gelatine, have also been utilised. A more recent innovation is the efflorescent base introduced by Mr. Cooper, which, for some purposes, is of special value. The French, so famous for all kinds of confectionery, have given us the *pâté de Guimauve*; but the defect of this is that it does not keep well. We owe to them also our best jujubes, a sweetmeat first made with the juice of the *Rhamnus cizyphus*, but now never containing that agreeable fruit. Experimental experience, extending over more than a quarter of a century, leads me to conclude that a *pâté de jujube* of the best French method of manufacture will be found most generally useful as a base. It fulfils all the indications required; it can be variously flavoured and coloured, divided into lozenges of any size or shape, and medicated with the most suitable remedies. It does not excite nausea or cause indigestion, and does not change too much after months of exposure. It is, therefore, adapted for lozenges prescribed for their topical influence, and is equally available for those given for their effects on the system. Specimens, made in accordance with my views, were exhibited at the annual museum at Cambridge by Messrs. Allen and Hanburys. Lozenges are more extensively used than could have been supposed, when the London and Dublin pharmacopœias rejected them. Everyone who remembers that time will know that, in spite of that discouragement, every large pharmacy was obliged to keep a considerable number. I have a list of upwards of 150 tried formulæ in use at that date. It comprises nearly all in common use now. Rhatany, an excellent astringent, still extensively prescribed for local purposes, is in that list, and was known long before. So with cubeb lozenges, which have lately been forced into extensive sale by a vendor who vaunts them as "bronchial troches". We have, in fact, few new lozenges. Red gum has been introduced; so, too, has carbohc acid; chloroform can scarcely be counted, being only morphia disguised; superior glycerine-jujubes may be had at any leading pharmacy, or of inferior quality as an advertised panacea.

The lozenges comprised in the long list alluded to might be classified according to their therapeutical uses, e.g., astringents, demulcents, sedatives, special stimulants, etc. It will suffice, however, to refer to the specimens exhibited at Cambridge. They were made from the writer's formulæ by Messrs. Allen and Hanburys, who were applied to as the owners of the latest patent in this kind of manufacture, and have so far carried out my views. These specimens are, therefore, offered as a distinct advance in medicated lozenges.

As the words *trochisci* and *tabellæ* have become associated with the harder lozenges, as jujubes seem to savour too much of sweetmeats, and as these are distinctly medicinal agents, it is proposed to call them pastils, an old English word more familiar in the French *pastilles*, and derived from the Latin *pastillus*, which was used by Celsus for such a purpose; *pastilli* will, therefore, be an appropriate name in prescriptions.

Doses and Therapeutical Uses.—With regard to dosage, those pastilles which are intended to replace the *B.P.* lozenges have been made of similar strength, as it was considered advisable not to burden the prescriber's memory too much. This is specially the case with the pastilles of morphia, those of morphia and ipecacuanha, and those of opium; in each of these, the pastille may be regarded as an agreeable substitute for the lozenge. So, too, with the simple ipecacuanha pastille, which will be found much more popular with children than the lozenge. The same remark applies to *pastilli ferri*. Each pastillus aconiti may be considered equivalent to half a minim of *B.P.* tincture, and prescribed accordingly. The pastillus expectorans, or morphia et ipecacuanhæ compositus, is a combination of the simple one with other expectorants, and will be found most serviceable in bronchitis, chronic coughs, etc. The chlorate of potash pastilles are not so strong as the lozenges, and may be taken in twice the usual doses; they are, however, very efficacious, and the disagreeable flavour is so successfully concealed that few can detect it. If large quantities are needed, other modes of administration may be tried. The pastillus sodæ chloratis I introduced as an efficacious and potent substitute for the potash salt. The lithia pastille contains a grain of the carbonate, and is valuable for both its local and remote effects. The benzoated pastille will be found the most agreeable of all mild voice-lozenges, and may be taken shortly before speaking, reading, singing, preaching, etc., to give tone to the vocal apparatus. In obstinate or chronic cases, the camphorated pastille is a still more powerful voice-lozenge, but, unfortunately, its flavour is not nearly so agreeable. This is, in fact, the only one of the series that can be considered unpalatable.

ADMINISTRATION OF ANÆSTHETICS.

By WOODHOUSE BRAINE, F.R.C.S.

I FEEL sure that a few cases of anæsthesia, the anæsthetic being given by the method I adopt, will lead Mr. Williams to qualify the opinions expressed in his letter published in the JOURNAL of November 13th.

When Dr. Joy Jeffries came to England, and demonstrated the fact that ether could produce anæsthesia as perfectly, and almost as quickly, as chloroform, his custom was to "crowd on" the ether; and, having his patients forcibly held by assistants, to render them insensible, *citô, tutô*, but most assuredly not *jucundé*.

If the patient be made to inhale a small amount of ether rapidly, the nerve-centres are very quickly brought under subjection, and the patient recovers rapidly; and with much less of that haziness and sluggishness of intellect which always takes place when they are a long time becoming unconscious. I think Mr. Williams will agree with me in this proposition—viz.: that, given the same amount of insensibility for any definite time, the smaller the quantity of ether inhaled the better. Let this point be conceded; he will then find that the quickest, and, in my opinion, the best, method of giving ether is to administer nitrous oxide till the patient is completely anæsthetised, and then to change the face-piece without allowing the inhalation of any air whatever. During the first few respirations, the larynx resents the ether-vapour, and they are somewhat jerky and spasmodic; but the larynx soon becomes accustomed to the irritant, the breathing becomes full, easy, and regular, and there is a complete absence of struggling. When the struggling does occur, the movements are generally referable to dreams which the patient is having; and, when he wishes to alter the position of his limbs, or to sit up, in pursuance of the nature of his dream, forcible prevention only makes him struggle more violently to accomplish his object, which, if effected in the first place, would have had no practical result, and he would have dropped back into the former recumbent position of his own accord. Should this struggling take place, no attempt should be made to hold the patient in any one position; his limbs should be allowed to move about freely, and he should be permitted to sit up, if he desire to do so—only preventing him from pulling off the face-piece.

But, in addition to the trouble saved by not having to hold a patient, the risk of a fatal result, especially when administering chloroform, is much less; for, if the patient be allowed to move freely, the heart has comparatively little work to do, compared with the strain on it which exists when it has to drive a column of blood through vessels which have rigid muscles on each side of them; and, again, this very struggling increases the venous flow, and tends to gorge the heart with venous blood.

There is one other point in the discussion that does not seem to have attracted the attention that, I think, it deserves; and that is, the time in the day at which the operation is performed. I feel convinced that

* Extract from a paper presented at the Cambridge meeting of the British Medical Association, 1880.

all patients take anæsthetics better the earlier in the day they are given; and I look on from 8 A.M. to 9.30 A.M. as the best time—for then the patient's stomach is empty, digestion having been performed when the patient has been asleep, and the patient has not been awake long enough to become very nervous, and to feel the want of food, and so be faint. In a very nervous patient, who did not sleep the previous night, I have known food vomited in exactly the same condition in which it has been swallowed twenty-eight hours previously.

CLINICAL MEMORANDA.

AMCBOID MOVEMENTS IN LEUKÆMIA.

I AM sorry I overlooked Dr. Bastian's observations on the sluggishness of amœboid movements in leukæmia; they entirely escaped, not only my own observation, but that of all the most recent writers on the subject, as Mosler, Neumann, and Gowers; nor were they alluded to by any speaker during the debate on leukæmia at the Pathological Society in 1878. I think a sufficient explanation of the oversight is furnished by Dr. Bastian's own references to the publication of his observations. The first of these (*Path. Trans.*, vol. xx, p. 14) occurs towards the end of a communication, entitled, "On the Plugging of Minute Vessels in the Grey Matter of the Brain as a Cause of the Delirium and Stupor in Severe Febrile Diseases, and on other Symptoms of the Typhoid State". After stating that, in certain conditions, the colourless corpuscles are "stimulated into revolutionary action", he goes on to say: "The mere increase in quantity of white corpuscles in the blood we meet with in leucocythæmia, and in other morbid conditions, in which their presence is less hurtful and comparatively free from risks of this kind, partly because there is no febrile elevation of temperature in these diseases, whilst, at the same time, we may presume that no special conditions of blood exist which tend to arouse the excitability of the white corpuscles." The reference to leukæmia, then, is merely incidental in a paper concerned with other matters; and I must confess that I myself should not have understood the passage above quoted in the sense which Dr. Bastian now tells us it should bear, but rather as implying the absence of "revolutionary action", and therefore, presumably, a normal condition.

Dr. Bastian's second reference is to a statement which is more explicit, although still not quite so definite as I could have wished. It occurs in his *Beginnings of Life* (vol. i, p. 226), a work whose title would hardly lead us to expect an observation on the Beginnings of Death; but it is quite sufficient to establish the priority over Dr. Laking which is claimed by Dr. Bastian. The words he quotes occur as a footnote to the following statement in the text: "The corpuscles which were about $\frac{1}{25000}$ " in diameter, as well as all those that were of smaller size.....exhibiting very slow amœboid variations in shape." It would seem, therefore, from the context, that Dr. Bastian never found amœboid movements completely absent, as Dr. Laking and I did in the great majority of the corpuscles. I believe that is the point of importance; and that general statements as to presence or absence or sluggishness of amœboid movements do not help us much; what is wanted is a series of detailed observations, such as those contained in my paper, as I think, for the first time.

Dr. Pye-Smith's remarks were made at the Pathological Society, in the course of the discussion on leukæmia, but not as a separate communication, and are therefore not reported in the *Transactions*; they will be found in the journals published at the time (1878).

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THE BLOOD-CELLS OF ANÆMIA.

IN the discussion upon Dr. Cavafy's paper at the Royal Medical and Chirurgical Society, Dr. Silver stated that he had examined the blood from two cases of anæmia, with a view to finding blood-cells of the shapes described and figured by Dr. Finny in the *JOURNAL* some months ago; and in neither case were any such oddly shaped red corpuscles found. It would be interesting to know, however, how long the anæmia had existed in these cases; for last week I had the opportunity of examining blood from three anæmic girls, sent to me for the purpose by Dr. Clifford Allbutt; and in two of them the corpuscles, though of very various sizes, were not misshapen. Both these cases were of recent date—within six months. The third was of at least two years' duration, and was very marked, the patient being unable to hurry in the least; indeed, even gentle exercise caused dyspnoea. She was also of marble whiteness. The blood-corpuscles in this case were of extraordinary shapes; some being ovoid; others flask-like, tapering to a hooked point; in others, the point was not hooked, but a small

spherical knob was attached to it; one cell was observed to be bluntly crescentic. With reference to the question of amœboid movements, I may say that the blood was in each case very rapidly carried from the finger to the microscope; and I was surprised to see distinct alterations of shape occurring in what appeared to be red corpuscles (at all events, they were not leucocytes), though not in those which were already greatly misshapen. Some of these—I cannot say they were the very same globules—afterwards became crenated in the ordinary way.

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THERAPEUTIC MEMORANDA.

LOCAL MERCURIAL FUMIGATIONS.

I HAVE seen, in a recent number of the *JOURNAL*, a short article on local mercurial fumigations of the mouth and throat, with an especial reference to a method, invented by Dr. F. B. Kane, for carrying out this treatment. In answer to the question, "Is anything known of this method here?" I would call attention to a similar method which was noticed in the *BRITISH MEDICAL JOURNAL* of April 13th, 1872, describing a "Local Calomel Fumigating Apparatus", devised by Surgeon Moffitt. This consists of a metallic cup, which fits on the top of Mr. Henry Lee's lamp. To this cup, in which from three to five grains of calomel are volatilised, are attached an afferent flexible tube, having an India-rubber ball at its end, and an efferent tube for directing the vapour on the part to be fumigated.

This paper states, as the advantage of such a method, that "the calomel fumes, instead of rising by their own lightness, are forced along a tube by air from a hand-bellows, and thus can be conducted quickly without being deposited on the sides of the tube, and directed with the greatest precision on any point, either in the mouth, fauces, nasal cavities, or skin".

I have used this apparatus occasionally, from the date of the notice referred to, with some advantage in syphilitic ulcerations of the pharynx; and have applied it to the larynx as well, not, however, with much advantage, by means of a laryngeal tube adapted for me by Messrs. Blaise and Co., who made the fumigator for Surgeon Moffitt. Some little habit is required to propel the vapour at the exact moment, so that, on the one hand, the dry calomel be not blown out upon the ulcer; and, on the other, the mercurial fumes be not allowed to deposit upon the tube by undue delay in pumping the air through the chamber. For this reason, I should think the glass tube invented by Dr. Kane would be preferable to the closed metallic cup.

W. MACNEILL WHISTLER, M.D.

IN the *JOURNAL* of October 23rd, a description of Dr. F. B. Kane's little apparatus for this purpose is wound up by asking the question, "Is anything known of this method here?" I have used a similar but less elegant contrivance for several years with considerable success. My first apparatus consisted of a wide-mouthed glass flask, through the cork of which were fitted two glass tubes—one drawn out to a nozzle, and the other fitted with a double-valved elastic ball (Fig. 1). The calomel was placed in the flask, and sublimed by the

Fig. 1.

application of a spirit-lamp. My object in constructing this apparatus was to fumigate with freshly sublimed sulphur; and, as I believe the local action of sulphur to be due entirely to free sulphurous acid, which it contains as an impurity, I hoped to increase the acidity of the sulphur by passing blasts of air (oxygen) through the flask during the process of sublimation, as well as to force the vapour through the nozzle in the direction I wished. I soon found, however, that a still simpler apparatus would suffice for the local application of calomel, as heat was not