

In mild cases the patients complain of slight nausea and giddiness, and the pulse rate may be increased and its action irregular; these symptoms pass off in the course of an hour or two without after effect. More severe degrees of poisoning are associated with collapse. Probably all the symptoms are due to the action of cocain on the sympathetic nervous system.

Some cases of slight delirium, seen occasionally about 24 hours after operation, and lasting two or three days have been ascribed to cocain. I have seen one or two such; in no case was there any immediate symptoms of cocain-poisoning, and the unpleasant symptoms arose after a very distinct interval. All the patients in whom I have seen this had both eyes bandaged, and it seemed to me possible that the confinement in total darkness had at least as much to do with the delirium as the cocain.

While the cocain is being instilled, the patient should be instructed to lean his head towards the corresponding shoulder to prevent the drug flowing into the lacrymal canals. If both eyes are being cocainised at once, pressure with the finger on the lacrymal sacs, will be equally effective.

Recently an artificial cocain, eucain, a synthesised alkaloid, has been introduced as having a similar anæsthetic effect without the disadvantages of the older drug. It is claimed that its solutions retain their power and are not decomposed by boiling as are those of cocain; on the other hand its application is accompanied by pretty severe smarting, and there is no vaso-constriction, but rather vaso-dilatation, so that hæmorrhage is more apt to interfere with the course of the operation.

Holocain is a still more recent discovery; it may be used in much weaker solution than cocain, 0.5 per cent. is said to be sufficient. I have no personal knowledge of this drug.

Whatever anæsthetic, whether local or general be employed, if the patient will be required to stay in bed for some days after the operation, he should be given an aperient on the preceding day.

In a considerable number of cases, however, these local anæsthetics are not sufficient. The skin is almost unaffected by cocain applied as we have mentioned, and the operations on the lids, and the deeper parts of the orbit are not rendered painless. Personally, I have not found the hypodermic injection of cocain much assistance in these operations. Nor is the sensitiveness of the nasal duct removed; often, therefore, we must perforce employ general anæsthesia. Apart from these, however, there are certain instances even of operations on the globe when cocain cannot be employed. The anæsthesia depends entirely on the absorption of the alkaloid; if the power

of absorption be interfered with, anæsthesia does not follow. When the tension of the globe is increased, the absorption of drugs by its surface diminishes, and hence in acute or sub-acute glaucoma, apart from the tendency of cocain to produce mydriasis, and consequent increase of tension, it should not be used because its application cannot produce anæsthesia.

In chronic cases, when the tension is little or not at all raised, it may be employed without disadvantage, especially if eserine be instilled to keep the pupil contracted.

Lastly, in very young children, and older patients, who are deficient in self-control, it may be impossible to dispense with general anæsthesia.

For operations on the nasal duct and for some of the shorter operations on the lids, nitrous oxide gas will usually be sufficient. Most frequently, however, the choice must lie between ether and chloroform. The latter is, from the ophthalmic surgeon's standpoint, the preferable. Ether produces a certain amount of congestion of the face, so that hæmorrhage may interfere with the accurate performance of the operation, and there is more coughing and retching afterwards than usually follows the administration of chloroform. Wounds of the globe are especially unfavourably affected by coughing and vomiting. The straining pressure on the ball may force the contents through the wound, and do serious if not fatal damage to the eye.

The greatest care must be taken therefore to avoid in every possible way the occurrence of vomiting, and this object can be attained chiefly by the preparation of a patient for an anæsthetic. In no case, except in extreme urgency, may this preparation be omitted.

The patient must have no food at all for three or four hours preceding the administration of the anæsthetic, and the last meal must be of such a nature as will be easily digested and absorbed. Thus, if the patient is to be operated on at 1 p.m. an early breakfast at 7 o'clock may consist of a cup of tea, a little toast, and a lightly boiled egg. At about 10 a.m. a cup of beef tea or soup may be given.

If no food be taken for too long a period before hand, the patient will be unduly exhausted, and thereby will run unnecessary risks at the time of operation. Before any general anæsthetic is given, the nurse must see that any false teeth are removed from the mouth to prevent any risk of their falling back into the trachea, or œsophagus, and that all tight clothing that might interfere with respiration, is loosened. A gag and tongue forceps must always be in readiness, and if chloroform be the anæsthetic, a hypodermic syringe loaded with 1-20 of a grain of strychnine in solution, and some capsules of nitrate of amyl, should

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