PRESSE MEDICALE, 17 OCT., 1928.

By M. M. FORGUE AND BASSET.

Extract of an exhaustive paper on spinal analgesia read by M. M. Forgue of Montpellier, and Basset of Paris, and discussed by a large number of authorities at the thirty-seventh meeting of the French Surgical Association, Oct., 1928.

In order to appreciate the indications for spinal anaesthesia with its technique, limits, and dangers, we must try to understand its mechanism:

In the first place it is important to distinguish between the puncture of the theca and the injection of the anaesthetic drug.

A simple puncture, even with a very fine needle, leaves a wound of the dura through which fluid may continue to escape after the needle has been withdrawn, a possible cause of headache and nausea, especially if any considerable quantity of fluid has been drawn off at the time of puncture; Pech and Delmas have shown that a low tension in the C.S. fluid favours diffusion of the anaesthetic, but Forgue protests against the custom of withdrawing such quantities as 25 or 30 c.cm. The height to which analgesia will extend is a problem of bio-physics rather than of simple physics; by a selective action the drug becomes "fixed" to certain tissue-elements and the upward spread of its effect is limited by exhaustion of the reagent in solution. Another factor determining the limitation and distribution of analgesia is the affinity shown by the drug for the spinal roots, especially the posterior roots; the safety of this method is, moreover, enhanced by the superficial nature of the penetration of spinal cord tissues, as shown by Gestan, Riser, and Laborde. As to changes produced in nerve elements, van Lier and Wossidlo found in rabbits and dogs that spinal anaesthesia produced lesions of the ganglion cells with disintegration of Nissl bodies but that these effects were transitory, complete recovery
taking place in 24 hours. As regards elimination of the drug it has been shewn by Klose and Vogt that this begins more slowly than might be expected from clinical data; Tropac- cocaine elimination commencing in 3 hours, that of novocaine in 12 hours, and of stovaine in 30 hours; the process being completed in from 20 to 48 hours, according to which drug is concerned.

The majority of workers regard spinal anaesthesia as too dangerous when employed as routine for upper-abdomen surgery, and although it may be indicated in order to avoid lung complications in such cases where local analgesia is insufficient, it is often safer, in gall-duct surgery, to supplement the local with open ether. The true domain of spinal is below the umbilicus, and it is generally agreed that where a short ethyl chloride or ether anaesthesia will suffice spinal introduces an unnecessary risk.

The property which spinal anaesthesia has of stimulating peristalsis renders it especially useful in certain cases of ileus and, on the other hand, may make its employment disastrous in operation for strangulated hernia owing to a risk of spontaneous reduction before the opening of the sac.

Among contra-indications must be included:—Subjects of low blood pressure, marked toxicity of obstruction; badly compensated heart disease; internal haemorrhages; infection such as septicemia, tubercle, or syphilis.

In summing up the authors compute the incidence of fatal accident at 1 in 1,000; of headache as 3 to 4 per cent; of 6th nerve paralysis 1 to 5 per thousand; and state that, far from unduly extending the field of spinal, they have learned to be more particular as to indications, and to widen the field of local and regional analgesia, returning to inhalation anaesthesia in short and simple cases.

During the subsequent discussion the following views were expressed:

M. Alivisatos (Athens) recorded 3,449 spinals without a death, he insisted upon the importance of not operating before the blood pressure had returned to nearly normal.

M. Danis (Brussels) considered the cause of headache to
be a continuation of leakage of C.S.F. through the wound in
the dura caused by too large a needle.

M. J. L. Faure (Paris) pleaded warmly in favour of general
anaesthesia by inhalation which he saw no reason to abandon.

M. de Rouville (Montpellier) after 28 years experience
advocated spinal provided its possibilities were not exceeded,
and considered it especially useful in gynaecological work.

M. Rocher (Bordeaux) advocated the use of this method
in children between the ages of 5 and 15, but reported a case
in which it was followed by hemiplegia in a boy of 13 years.

The following figures show the number of fatalities re-
ported by various speakers:—

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<th>Number of deaths</th>
<th>Total of cases</th>
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A. L. Flemming.