cal medicine may be expected to play an increasingly important role in the postoperative care of this type of neurosurgical patient.

Detailed reports of cases similar to this one are important in order to provide the surgeon with additional knowledge of what cerebral dysfunction to expect when it becomes necessary to resect that part of the superior longitudinal sinus which receives venous blood from the rolandic area.

REFERENCES


AUTODERMOGRAPHY

A NEW AND SIMPLE METHOD OF DEMONSTRATING THE PROPAGATION OF PAIN AND DISORDERS OF SURFACE SENSIBILITY

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This contribution describes a method of clinical examination for pain as well as other sensory disturbances, based on the active cooperation of the patient. The patient is asked to draw on his skin, with the aid of a dermograph pencil, his own areas of pain or rather projection of pain, of hypo- or hyperaesthesia, of disorders of tactile or thermic sensitivity, or segments of paraesthesia.

The author, working among African natives, saw cases of anaesthetic leprosy which itself draws areas of anaesthesia by depigmentation of the skin. In painful conditions of various etiology, the natives frequently demonstrate the painful areas by making scratches with their nails on the skin, and self-infected points de feu follow exactly the cutaneous segments. This suggested the method of demonstration of sensory disturbances here described.

By asking the patient to draw on his skin the outline of his subjective sensory disturbance, whatever its nature may be, one obtains, in a short time, accurate pictures of pain distribution, dys- or paraesthesia, made without influence of the examiner, and providing accurate clues to diagnosis and localization. It is my opinion that this subjective method surpasses the well known so-called classical "objective" methods, but certainly by combining both, the best results are likely to be obtained.

We are now using this kind of examination in all cases of pain and paraesthesia. When the drawings are made, the patients are photographed or the findings charted (Figs. 1 and 2).

Our greatest experience in the application of this method is with root pains in so-called lumbago and sciatica, mostly the monoradicular syndromes of the lower extremities. The drawings obtained are in agreement with the dermatome charts of J. H. Kellgren reported by J. Jay Keegan,2 and not in accordance with the work of Head, Foerster or Déjerine. The patient draws the areas of root pain and on checking these with tests for sensitivity, we find that they coincide exactly.

Early in the disease, cutaneous segments of hyperaesthesia are found; usually after longer duration there is hypaesthesia. In the majority of cases where an operation has been performed, our experience is in agreement with that of Keegan, who finds, in most of his patients operated upon, segments of hypaesthesia. These segments are independent of etiology.

Inman and Saunders1 described so-called "sclerotomes," which indicate the areas of pain...
in the deeper tissues. From the point of view of localization, these sclerotomes are in agreement with the findings of Keegan and ourselves as far as the innervation of the segments of the lower limbs is concerned.

In the segments of pain described by us are the points of Valleix and also the points of most frequent pain, and of the propagation of pain as published by American, English and French writers.

While drawing, some patients themselves provoke pain in order to obtain precise information. Sometimes we help them to recall their areas of pain by similar methods, i.e., by bending the body, looking for Lasègue's sign, etc. In this way we enable the patient to bring out areas of pain of which he is only partly conscious. Sometimes we require the patient to draw the most painful areas, in this way obtaining a picture of "complete" as distinct from "partial" pain in analogy with percussion.

Patients who exaggerate or who suffer from functional disorder may produce bizarre drawings, bearing no relation to segmental distribution.

After cutting the posterior sensory roots, patients will readily draw areas of desensitivity, thus giving us a proof of the coincidence of pain and anaesthesia, and providing a check on the roots that have been cut.

Until now few of our investigations have been verified by operation but we have sufficient material to consider this cooperation on the part of the patient most useful from the diagnostic point of view. We class the method here described among the routine clinical methods of neurological examination. The drawings produced by patients usually surprise us by their

Fig. 1. Posterior, lateral and anterior views of a patient's own diagram of pain distribution in an area corresponding to the left 5th lumbar dermatome.
precision. The length of the band of pain drawn in the autodermogram usually coincides with the entire segment; also overlaps are less extensive than in the hyperaesthetic and hypaesthetic areas. In the majority of cases, the patient knows better than the physician the position of his pain.

Fig. 2. Posterior and lateral views of a patient's own drawing of receding paraesthesia in a left 1st sacral radical syndrome.

I began using this method in 1943 with all patients, so that my experience covers several hundred cases. Statistical data and a comparison with verification by operation in our clinic will be published later.

REFERENCES