three cases of spontaneous haemorrhage in the spinal canal, and the history of this condition, as it appears in
the literature, was presented. In none of the cases did
the haemorrhage result from an angionia; in two cases
the bleeding was subdural and in one case extradural.
The authors felt that slight trauma, which was usually
held responsible for these episodes, was probably co-
cincidental and that the origin, not only of extradural
bleeding but also of subdural bleeding, was probably
from a venous anomaly. One of their cases was due to a
defect of blood coagulation due to anticoagulant therapy.
In two cases spinal cord compression was severe and
operation was undertaken later than would otherwise
have been the case if the patient had initially been seen
in a Department of Medical or Surgical Neurology.

REGULATION OF SPINAL BLOOD FLOW UNDER
PHYSIOLOGICAL AND PATHOLOGICAL CONDITIONS

H. Palleske, H.-D. Herrmann, and F. Loew (Homburg/
Saar) investigated the regulation of spinal cord blood
flow in 48 dwarf pigs by applying a heat clearance probe
to the lumbar cord at laminectomy. Simultaneously
a similar probe was placed on the surface of the brain to
correlate the two readings. The aorta was also exposed
so that the blood supply to the lower part of the body
could be occluded when required. They came to the con-
clusion that the regulation of the blood flow of the spinal
cord was very much the same as in the brain and that the
different reaction to vascular compression could be
attributed to differences in the vascular pattern in the
spinal cord.

This paper was then discussed by K. Piscol (Heidel-
berg), R. Wültenweber and F. K. Schröder (Bonn).

MYELOPATHY IN CERVICAL SPONDYLOSIS: SURGICAL
TREATMENT USING A POSTEROLATERAL APPROACH

Antony Jefferson (Sheffield) reported a posterolateral
approach for the surgical treatment of myelopathy with
cervical spondylosis which had been routinely employed
for the past five years. For three years, a wide laminectomy (usually from C3 to C6 inclusive) had been
combined with the removal of the cartilaginous and
osteophytic disc lesion. The prone cerebellar position was
used. The instruments were simple. As well as the vertical
incision required for the laminectomy, a transverse incision
through skin and muscle was made to allow the
 correct trajectory of the instruments. Laminection was
considered essential because ligamentum flavum, indent-
ing the theca, could often be displayed on myelography.
Myelograms indicating the pre- and post-operative
appearances were shown, as well as a film of a recently
operated patient. Among the first 50 patients, none had
been worse post-operatively, 10% were unchanged, 22%
had improved marginally but were still unable to work,
while 68% had resumed work (39% of this last category
had a negligible disability). Analysis of a patient’s clinical
state at the time of operation indicated that the best
results followed when the pre-operative handicaps were
not gross, when hyperreflexia was not excessive, and
when at least one plantar response remained flexor. After
both plantar responses had become extensor, operation—
if contemplated—should be performed as soon as con-
servative measures had proved themselves ineffective.
It was suggested that this technique appeared both useful
and safe.

PROPERTIES OF SOMATOSENSORY NEURONES IN THE
HUMAN THALAMUS

A. J. McComas, P. Wilson, J. Martin-Rodriguez, C.
Wallace, and John Hankinson (Newcastle upon Tyne)
had studied the electrophysiological properties of thalamic
neurones during the course of stereotaxic surgery for various movement disorders, particularly
Parkinsonism, and also for intractable pain. Altogether
57 patients were investigated, of whom the majority were
fully conscious at the time of recording; in these patients
a total of 83 tracks were made with tungsten micro-
electrodes.

The electrodes were directed through a posterior burr
hole towards a target in the ventralis oralis posterior
nucleus, 2 mm above the intercommisural axis at the
junction of its middle and posterior thirds. The correct
localization of this target was greatly facilitated by a
detailed survey of neurones in the somatosensory region
lying posteriorly (presumably N. ventralis caudalis and
N. ventralis intermedius). In the anteroposterior axis it
was possible to delineate the anterior border of this
somatic area, and also the interface between N. ventralis
oralis and the internal capsule, with considerable accuracy
(probably to 0·5 mm). In the transverse axis the evoked
somatosensory potentials enabled seven degrees of laterality to be identified. Thus, as the electrode was
advanced anteriorly, successively more lateral tracks
encountered the following sequences of topographical
representation:

Most medial track: No evoked potentials
Face (responses barely detectable)
Face
Face → hand
Hand → face → hand
Hand

Most lateral track: Foot

Since the anterior border of the somatosensory nuclei
occupied about 9 mm in the transverse axis, the recog-
nition of seven degrees of laterality (above) conferred an
accuracy of not less than 1·5 mm in this dimension.
For most patients the best site for the centre of the lesion
(6 mm diameter) was a point 2 mm beyond the anterior
border of the somatosensory region which represented
the face first and then the hand.

Of the 122 somatosensory neurones investigated to
date, 86 responded to touching the skin, and 31 to move-
ments of joints, on the contralateral side; a further five
units had high thresholds and could not be classified
satisfactorily. The joints most frequently concerned were the metacarpo-phalangeal ones and units responding to
extension were most prevalent. The receptive fields of
the ‘cutaneous’ units varied from 0·3 cm² to 30 cm² in size;
In general, the units with the smallest fields were those
Myelopathy in cervical spondylosis: surgical treatment using a posterolateral approach.

A Jefferson

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