

sis, giving enemas of quinin bisulphate, with regulated diet, pancreatin, sodium carbonate and small doses of salts to produce one or two bowel movements a day aside from the effects of the enema. The deposits were treated with inunctions of mercury and the internal use of iodid pushed to the therapeutic limit. Under this treatment 3 patients died, 2 of amebic dysentery after the pellagra lesions had disappeared, 12 patients improved in varying degrees, and 6 more improved and continued to improve, 4 recovered, all symptoms of pellagra disappearing except a slight increase in the patellar reflex. While his studies, he thinks, are suggestive, no conclusions can be drawn as yet; much longer and more detailed studies will we require.

SPINAL CORD TUMORS.

Pearce Bailey, New York (*Journal A. M. A.*, March 12), believes that we can take a more hopeful view of the operative treatment for tumors of the spinal cord, and that the time has come to let up on our former conservatism. Instead of questioning whether a tumor is present in every case of paraplegia without known cause, we should ask are we sure such a tumor is not present? He reports three cases of recent operation and also the after history of three cases in which the patients were operated on and reports of which were published several years ago. As regards diagnosis he remarks that multiple sclerosis may give symptoms similar to those of tumor of the cord, as also may Pott's disease, aneurism, and syringomelia. Text-books give so little attention to the diagnosis of metastases probably because they are so unmistakable from the history and the local tenderness they produce. The diagnosis, however, may be difficult, if the lesion is not in the bone or if atypical in not causing tenderness. Metastases of carcinoma, especially of the breast and prostate, are the most frequent and almost always in the vertebrae. The metastases of carcinoma are usually in the form of direct extension from neighboring parts

and may involve or skip the bone. Hypernephromas have a predilection for the vertebrae in their extension. Fibromas cannot be regarded as metastatic tumors, but by their methods of spreading and dissemination are important in diagnosis. Dercum has called attention to the fact that rapidly growing metastases of goiter may occur in the cord. Examination of the cerebrospinal fluid is not of great practical value in diagnosis. It is generally normal, except in case of acute disseminated sarcomatosis of the central nervous system. The Wassermann test may determine the specific character of the tumor. One of the chief difficulties in the clinical diagnosis of spinal cord tumors is the extreme irregularity of their course. The onset may be sudden but the course not necessarily rapid, and again they may be so rapid as to suggest an acute infectious disease, or they may exist unrecognized for years. History of trauma merits attention as they often arise after injury and may be aggravated by it. The general rules for localization are the same as for spinal diseases generally, but symptoms given by the vertebrae outvalue all others for focal diagnosis. In view of the long intraspinal course of the nerve roots, especially in the dorsal area, it is important to determine whether focal symptoms come from the root or from the segment from which it arises. Experience proves the truth of Brun's law that such symptoms generally proceed from the segment, i. e., that spinal cord tumors compress the segments of the cord rather than the roots that run over them. Hyperesthesia may, however, result from pressure on the root itself. Too much reliance should not be placed on referred pains as localizing signs. They are apt to be too general and indefinite. In the lumbosacral region both cord and root symptoms may be caused but tumors limited to the cauda give mainly sacral symptoms. The Brown-Sequard complex does not occur with tumors in this region but does in the lumbar region. According to Oppenheim, a tumor exerts its chief pressure at its upper pole, com-

pressing at the upper limit only, as in a case he reports. As regards the transverse section of the cord occupied, to determine whether the tumor is pressing on the cord or growing in it or is laterally, anteriorly, or otherwise implanted, it is not always possible to say. Rapidity of growth may help to determine, and intramedullary tumors may give rise to dissociation of sensation, but this is not very serviceable in differential diagnosis. As regards indications for operation, Bailey considers them much more positive when the tumor appears to be in the cord itself or membranes, rather than in the bones. The only contraindications then are too great weakness of the patient or evidences of irremediable destruction. While the chances of success are poor, the diagnosis of intramedullary tumor cannot be made during life with sufficient certainty to contraindicate the possibilities of good in the operation. Laminectomy for spinal cord tumor is hazardous on account of the poor resistance of the patients. An important point is to operate early enough. It is well to have the probabilities of situation in mind, as given in the table of Schlesinger. Intradural tumors greatly exceed in frequency extradural ones and the larger proportion are ventral or central in situation. The chances therefore of its being hidden by the cord in operation are very slight. The dura should be opened if it shows no external tumor and no obstacle is found to a hook or probe passed down to the ventral surface of the sac. The details of the technic are given. The author thinks more attention should be given to the escape of cerebrospinal fluid and questions whether some sudden operative deaths may not be due to inattention to this point. He advises operation on a table tilted with the head downward or in the Trendelenburg position, to avoid this complication. After-leakage should never occur as it is easily avoided by careful suturing.

EYE, EAR, NOSE AND THROAT.

MENINGITIS OF OTITIC ORIGIN.

E. B. Dench, New York (Journal A. M. A., August 27), classifies meningitis of otitic origin as (1) circumscribed meningitis or epidural abscess; (2) serous meningitis; and (3) purulent meningitis. He says that little is to be said in regard to the symptomatology of circumscribed meningitis; its diagnosis is made in most cases on the operating table. The only symptoms which the patients present are localized headache and slight rise of temperature, which, occurring in the course of acute otitis, warrant the surgeon in suspecting incipient meningeal trouble. The second and third forms are of more interest. Whether the inflammation is serous or purulent seems to depend largely on the virulence of the infecting organism. It is probable that a purulent meningitis is always preceded by a serous one. In suspected meningitis in ear disease the labyrinthine involvement should be looked for, as shown by disorders of equilibrium, vertigo, nystagmus, etc. In the early stages the nystagmus may occur toward either side, but, as the disease progresses and the labyrinth becomes paralyzed, it is usually more marked toward the healthy side. Both the turning and caloric tests should be used. Later the nystagmus toward the sound side may disappear or give place to one toward the diseased side, positive evidence of a retrolabyrinthine lesion, in the cerebral substance or in the meninges close to the vestibular nerve. In adults an examination of the hearing is important and the appearance of a sudden and profound deafness, especially if accompanied with vestibular symptoms, should suggest beginning meningitis. Cochlear involvement ordinarily shows itself by deafness, loss of bone conduction and failure of perception of the higher musical tones. Many authors speak of facial paralysis as a symptom of meningitis, but Dench thinks that this is not necessarily so in ear disease. It is probable that a serous meningitis is never fatal of itself* but if it presses on to the purulent stage it is