3. That the existence of gall-bladder disease is not in itself a cause of miscarriage, but that miscarriage may induce the development of active symptoms from a process previously latent.

4. That cholecystitis or cholelithiasis occurring during convalescence from miscarriage should receive the same surgical treatment and bear the same prognosis as in cases not associated with pregnancy.

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DIFFUSE SUB-DURAL LIPOMATOSIS OF THE SPINAL CORD IN AN INFANT.

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SUB-DURAL lipomata are not uncommonly seen in cases of spina bifida and spina bifida occulta. Von Recklinghausen¹ has shown the significance of these tumors, and has called attention to the fact that they are almost invariably mixed tumors, rather than true lipomata; usually myolipomata or fibrolipomata. These mixed tumors either spring from the subcutaneous tissue and stretch toward the cystic myelomeningocele, or are true intradural growths, springing from the spinal membranes and projecting free into the cyst. Fatty tumors may also appear when there is no marked cystic enlargement of the spinal canal, but only a flattened serous canal, the remains of a shrunken cyst that had formerly existed over the sacral region. It is noteworthy that in such cases club-foot, a symptom so often associated with spina bifida, has occasionally been observed.

In spina bifida occulta there are sometimes found intradural lipomata which may be connected through a fibrous strand, piercing the membrana reuniens, with a similar growth in the subcutaneous tissue. These tumors lie in the canal itself. All such tumors, it is to be remarked, lie in lumbar or sacral portions of the cord.

Cases of intradural lipomata not connected with spina bifida are, on the other hand, extremely rare. We can only find two cases reported in the literature. The first of these is that reported by Gowers,² and so closely resembles some of the tumors above alluded to that there is more than a likelihood that spina bifida was present. Gowers' patient was suffering from tabes dorsalis. At autopsy there was found a small mixed tumor composed of fatty tissue and striped muscle, attached to the conus medullaris, and apparently springing from the pia mater, which was greatly thickened. The tumor measured half an inch in length, three-eighths of

an inch in breadth, and half an inch in thickness. Its position was left-sided, stretching from the anterior to the posterior fissure; the shape was crescentic. Bands of fibrous connective tissue divided it into islands. In the anterior portion there was much wavy fibrous tissue and striped muscle. Here again a congenital origin is suggested by the presence of muscle.

The second case is that reported by Braubach.³ His patient was a girl of five years, who had suffered since the earliest months of life from cramps, which had later been followed by motor paralysis, pain and incontinence of both rectum and bladder. At autopsy the brain and medulla were found normal. The lower two-thirds of the cervical cord and the upper one-third of the dorsal cord were compressed by a tumor of fat tissue, springing from the arachnoid, and loosely connected in places with the dura. The tumor is spindle-shaped and measures 12 cm. long by 3 cm. wide by 2 cm. thick. The cord is pressed forward and to the left. It is compressed and degenerated and lies, as it were, in a canal in the front of the tumor.

The present case was found in a male infant, aged ten months, from the Pathological Service of the Bender Laboratory in Albany. The clinical diagnosis was chronic internal hydrocephalus. At autopsy the dura was found to be normal and to reflect normally from an apparently greatly enlarged spinal cord, which was covered with a smooth glistening arachnoid coat. The enlargement of the cord was symmetrical from the medulla to a few cm. above the filum terminale, where there was a marked constriction. Below this point there was an ovoid swelling one to one and a half cm. in diameter. In the cauda equina, attached to the nerve trunks there were numerous small, white, firm nodules, 2 to 5 mm. in diameter. The diameter of the cord in its greatest part (cervical) was two by one and a half cm. The diameter of the dorsal cord averaged one by one and a half cm. (Fig. 2). On section, the cord itself seemed to be flattened, and presented as a greyish zone 2-4 mm. wide, occupying a portion of the periphery on the ventral side. The material composing the bulk of the enlarged spinal cord was firm and white. The cross section presented a reticulated appearance, resembling a cross section of the muscle of fish. Microscopical examination of fresh material, however, showed that this was fat in the form of large globules.

It is to be remarked that in this case there was a congenital absence of the right kidney and ureter, as well as a chronic internal and external hydrocephalus, and a cleft palate and hare-lip. There were no other findings of importance, except that the spinal canal was much larger than normal, to correspond with the greatly increased dimensions of the cord. Thus it is seen that this case, though not associated with a spina bifida, was certainly associated with other congenital defects, a fact which raises the question whether such intra-dural lipomata ever occur except in connection with congenital malformations.

The medulla showed attached to it at the cerebellar-pontine angles, two small white nodules, attached to the pia mater by broad pedicles, one to one and a half cm. in diameter, greyish-white in color, and offering little resistance to the knife (Fig. 1). These nodules showed on microscopical examination an appearance similar to that of the tumor in the spinal canal.

Microscopically, in stained sections, the tumors over the medulla show masses of large spherical fat cells, divided into lobes by strands of connective tissue, which spring apparently from a greatly thickened pia mater. The fat of these cells stains like normal fat with Sharlach R and Osmic acid. The tumors contain several large vessels, and are on the whole distinctly vascular. They are partially encapsulated by a thin band of connective tissue, probably the remains of the arachnoid. The spinal cord appears throughout greatly flattened and distorted, and connected closely throughout its length with a fatty tumor, of the same nature with those in the medulla, in which are imprisoned several nerve roots. (Figs. 3 and 5.) The connective tissue capsule is thicker than that seen in the tumor over the medulla. The filum terminale is encased in a similar fatty growth, which lies between a greatly thickened pia and a fibrous tissue capsule representing the arachnoid. The cauda equina appears as several nerve trunks encased in a fibrous tissue capsule and separated by diffuse masses of fatty tissue resembling that seen in the medulla and the cord, the whole being surrounded by a thick connective tissue capsule. In the conus medullaris there are several small ependyma-lined cysts with neuroglia tissue in the intervening spaces (Fig. 5). Throughout the tumor, there is no sign of embryonic fatty tissue or of anything which would indicate rapid growth. In the cervical region, however, the remains of the dorsal columns are represented by scattered nerve-bundles separated by strands of fibrous tissue continuous with that of the pia mater, in which are numerous fat cells, an appearance which suggests that there was at one time some degree of active invasion of the cord itself by the lipomatous cells. This tumor, therefore, must be regarded as benign and of congenital origin.

Microscopically then, we find that the tumor is intradural, lipomatous in nature, and essentially benign, though showing some evidence of slight invasion of the substance of the cord itself. The growth is surrounded by the pia arachnoid.

Finally, from perusal of the literature, it is evident that such a condition is exceedingly rare, except in connection with spina bifida. Furthermore, in the few cases where it has occurred in the absence of the latter condition, there has always been, with one exception, either some associated congenital malformation or something in the structure of the tumor itself to suggest a congenital origin. In brief, the question arises whether such a condition can arise independently of other congenital defects. The extensive and symmetrical involvement of the spinal cord makes this case unique.

Let us summarize briefly the findings in this case. Anatomically there are present two small white tumors at the cerebellar-pontine angles, and a spinal cord symmetrically en-

larged throughout its length, except for a constriction a few cm. above the terminal filament, the enlargement being due to a similar firm white growth inside the spinal membranes, which has flattened the cord itself and crowded it ventrally. Microscopic examination shows this growth to be composed of cells having the appearance of normal fat cells, the fat contents of which react to Sharlach R and Osmic acid, like normal human fat. The fatty growth is entirely limited to the confines of the pia arachnoid. In addition there are present cleft-palate and hare-lip, absence of the left kidney and ureter, and chronic internal and external hydrocephalus.

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- ¹ Von Recklinghausen: Untersuchungen über Spina Bifida. Virchow's Archiv, 105. 1886.
 - ² Gowers: Trans. Path. Soc., London, Vol. 27.
 - ³ Braubach: Archiv. für Psychiatrie, Vol. 15, 1884, p. 489.
- For a brief general treatment of the subject the reader is referred to Lubarsch-Ostertag, "Ergebnisse der Pathologie und Anatomie," 1903; Erste Abteilung, p. 468.

DESCRIPTION OF FIGURES.

Fig. 1. Cerebellum, inverted, showing fatty tumors at cerebellar pontine angles.

Fig. 2. Spinal cord with the dura reflected, showing the cord and growth enveloped in the pia-arachnoid.

Fig. 3. Section of cervical cord, osmic acid impregnation, picric acid and acid fuchsin counterstain. Note flattened cord and connective tissue on dorsal surface, which surrounds nerve bundles in the dorsal columns.

Fig. 4. Section of lower lumbar cord; same technic as Fig. 3.

Fig. 5. Longitudinal section through the conus medullaris, showing fatty tumor and ependyma lined canals.

THE ABUSE OF THE X-RAYS IN THE TREATMENT OF SKIN AFFECTIONS.

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THE attitude of the practitioner of medicine toward the adoption of new therapeutic measures must be regarded as essentially dependent on individual temperament. A short and easy road to a permanent cure is the aim of everyone engaged in trying to heal the sick, and to those having special opportunities, the testing of new remedies and methods of treatment is a privilege of the utmost importance and value. Such a privilege, however, is not vouchsafed to the many, and for them the decision as to what remedies are safe or valuable for present use, must be based on the testimony of others. It is here that the matter of temperament thrusts itself into the foreground. By one of somewhat conservative nature, who has seen many methods that have been heralded as marvellous in their results, either wholly superseded or reduced to a very subordinate place in the catalogue of resources, much is demanded of a new method before its adoption,—above all, a reasonable certainty that it will at least do no harm. For the enthusiast anything new is attractive, and the calm deliberation as to whether a worse subsequent condition may result, is consistently lacking.

The discovery of the Roentgen rays offered at the outset hopes of a wide field of application in the treatment of skin diseases. These hopes have been on the whole only partially realized.