

had taken the trouble to investigate the light-field, he might have placed himself in possession of the data which would have assured him of the probable diseased condition of the eye-ground.

Perhaps we have permitted massage and treatment of this kind to fall too much into the hands of irregular practitioners and that it is worth while to investigate its advantages in a truly scientific spirit. We all remember that Kalish, in 1891, and again in 1899, published papers in which he advocated the treatment of uncomplicated immature cataract by a special form of manipulation and the instillation of a mixture of equal parts of glycerin and 1 per cent. solution of boric acid and rose-water. He claimed good results, but his method has not been followed, chiefly, it seems to me, because less troublesome methods are equally efficacious and because Dr. Kalish very properly gave the greatest attention to frequent correction of refractive error in his cataract patients and to keeping their general and ocular health at the highest pitch, in other words, pursuing methods such as have been advocated in this paper, and which of themselves are capable of exercising a retarding influence. Therefore, it is difficult to judge what value his method of manipulation and instillation in the conjunctival sac of itself may possess.

Now and then certain specific remedies have been advanced for the treatment of immature cataract. Perhaps the one which is best known, and to which the attention of the profession has been very much directed, is the fresh juice of the *cimeraria maritima*, a drug which, so far as we know, has in no way justified the claims that were made for it. Doubtless all have read Dr. J. Ellis Jennings' interesting research as to the value of this remedy.⁹ The extraordinary influence of the thyroid preparations, particularly in the form of thyroid extract, led me to try its effect in one or two cases of partially formed cataract. As far as I could see it did no harm; certainly it did no good.

CONCLUSIONS.

1. Certain lenticular opacities, most often situated in the naso-inferior quadrant of the lens, occasionally are practically stationary and may be designated "non-progressive." They do not handicap the patient's ocular abilities, and may with propriety be separated from the class to which the name incipient cataract is ordinarily given.

2. Certain lenticular opacities undoubtedly depend, as Risley and others have shown, on what may be designated "disturbances of the choroid" as apart from active and actual choroiditis; and their progress is sometimes apparently checked by measures—optical, local and general medicinal—which restore the choroid coat to normality. Such measures do not, however, remove from the lens the opacities which have already formed when the patient comes under treatment.

3. Certain lenticular opacities which appear in association with diabetes mellitus, nephritis, lithemia and arteriosclerosis, particularly the last two diseases, are sometimes apparently retarded, like those in No. 2, by measures which are suited to the patient's general condition in connection with local and optical therapeutics; but these measures never dissipate the lense-lesions already present.

4. Certain lenticular opacities produce not only prodromal myopia but very high degree of astigmatism, the correction of which may result temporarily in a surprising improvement in visual acuity.

5. Certain lenticular opacities cause an obscuration of vision that may be largely dissipated temporarily

by providing the patient with glasses moderately tinted which give the best visual acuity during mydriasis and maintaining this mydriasis with a mild mydriatic. Sometimes, under these circumstances, the mydriasis seems to hasten maturation: this fact should be explained to the patient.

6. Certain lenticular opacities, especially in the form of striae of refraction, cause an obscuration of vision which is somewhat relieved by maintaining a mild myosis with weak solutions of one of the myotics.

7. If the vision of eyes suffering from incipient cataract of the nuclear type is improved by mydriasis, this is not a sufficient indication for optical iridectomy, unless the patient finds by observation that the increased visual acuity, as noted by test-type examination, is also advantageous in pursuing his ordinary occupation.

8. The extraction of unripe cataracts is preferable to any of the ordinary operations for ripening cataract.

9. There is no evidence that electricity has the slightest influence in checking the rate of progress of incipient cataracts, or in dissipating the opacities which have formed.

10. If there is any evidence that massage of the eyeball favorably modifies the rate of development of cataract it is still very insufficient; there is some evidence to show that massage sometimes hastens the opacification of the lens. The subject demands further investigation.

11. There are no "specific remedies" for the treatment of cataract, and there is no reliable evidence that drugs exist which cause the absorption of partially or fully formed cataracts.

12. All lenticular opacities, unless perhaps those which belong to the so-called non-progressive group, should be regarded as indications for a thorough investigation of the patient from the general as well as the ocular standpoint, and for an employment of remedial agents—optical, local, medicinal—according to the findings.

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* Randall thinks this position depends on the frequent choroidal changes found in a corresponding area of the fundus. This is doubtless true in many cases; but these, I think, differ from the ones now under discussion, and tend to progress like other choroidal cataracts.

COMPLETE TRANSPOSITION OF VISCERA.

REPORT OF A CASE.*

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In my work at the anatomical laboratory of the Tulane Medical College a case of complete transposition of the viscera came under my observation. Owing to the facilities of the laboratory I was able to make a thorough dissection of the viscera of the large cavities of the trunk. The subject was a negro, about 25 years of age, and fairly well developed. It presented no external abnormal signs.

On opening the thorax I found both lungs consolidated and with such adhesions as to preclude any means

* Read before the Louisiana State Medical Society, April 20, 1900.

of distinguishing the right from the left. The heart occupied the middle mediastinal space and was placed obliquely in the chest; the apex was directed downward, forward and to the right, reaching the fifth intercostal space and three inches to the right of the median line; the base was limited above by the second costal cartilage, and the left border of the heart extended to the left border of the sternum. The inherent relationship of the heart itself was changed, so that the normally right ventricle was in front and to the left, and the normally left ventricle lay to the right and posterior; that is, it was simply reversed. The venous side of the heart was toward the left, the *venæ cavæ* being on the left side and entering the left auricle (normally the right). The arch of the aorta was directed upward and slightly to the left, then backward and outward to the right, making a short curve like a Gothic arch. The innominate artery arose from the commencement of the arch of the aorta in front of the right carotid, and ascending obliquely to the upper border of the left sterno-clavicular articulation, divided into the left common carotid and left subclavian arteries. The right carotid arose from the highest part of the arch of the aorta and ascended vertically to the root of the neck. The right subclavian artery passed nearly vertically from its origin at the arch of the aorta to the inner margin of the scalenus anticus muscle. The thoracic aorta was situated on the right side of the spine, approached the median line as it descended, and at its termination lay directly in front of the column. The esophagus lay on the left side of the aorta above, then at the lower part of the thorax passed in front of the aorta and at the diaphragm was situated to its left side. The right pulmonary artery, shorter than the left, ran in front of the descending aorta and right bronchus to the root of the right lung; the left pulmonary artery passed behind the ascending aorta and superior vena cava to the root of the left lung. The right innominate vein, about two inches in length, passed from right to left, crossing the three large branches of the arch of the aorta near their origin. The left innominate vein, much shorter than its fellow of the opposite side, passed almost vertically downward and joined with it close to the left border of the sternum, to form the superior vena cava. The relations of the superior vena cava were in front, with the pericardium and sternum; behind, with the root of the left lung; on the right side, with the commencement of the innominate artery and ascending part of the aorta, and on its left side with the phrenic nerve and left pleura. The right pulmonary veins passed in front of the thoracic aorta with the right pulmonary artery; the left pulmonary veins passed behind the left auricle and ascending aorta. The right pneumogastric nerve crossed over the arch of the aorta, its recurrent branch winding behind the arch; the left pneumogastric nerve passed in front of the left subclavian artery and sent its recurrent branch behind that vessel.

On opening the abdominal cavity, the stomach was situated, for the most part, in the right hypochondriac region, beneath the liver and diaphragm and above the transverse colon; its fundus, which projected upward and to the right of the esophageal opening, touched the diaphragm, while the pyloric extremity was directed downward and to the left.

The duodenum presented its normal horseshoe curve, the convexity being directed toward the left and the concavity to the right, embracing the head of the pancreas. The common bile duct and the pancreatic duct

entered the duodenum on the inner side of its descending portion. The other divisions of the small intestine presented nothing of interest. The cecum was found in the left iliac fossa, the vermiform appendix two and one-half inches in length, and in normal relation with it. The ascending colon passed upward to the left hypochondriac region; the transverse colon was found in its normal position; the descending colon passed down on the right and terminated in the sigmoid flexure, which was somewhat shorter than usual, and situated in the right iliac fossa. The rectum originated opposite the right sacro-iliac symphysis, passed obliquely downward from right to left to the middle of the sacrum. The liver extended to the lower border of the ribs and occupied the entire left hypochondrium; the left lobe was in the epigastrium, extending to the right hypochondrium. The round ligament was to the left of the median line. The gall-bladder bore its usual relation to the liver. The spleen was normal in size and appearance and in the right hypochondriac region. The pancreas extended horizontally from left to right, the head being embraced by the concavity of the duodenum and the tail extending to the right as far as the spleen. The left kidney was a bit lower than the right; otherwise the kidneys were normal. The ureters and bladder were normal in appearance and position. The abdominal aorta presented its usual branches, but on the left side it was in relation with the inferior vena cava, which in its course upward perforated the central tendon of the diaphragm to the left of the esophageal opening. The left spermatic vein, instead of emptying into the left renal vein, emptied directly into the inferior vena cava, whereas the right spermatic vein emptied into the right renal vein instead of into the vena cava.

Anomalies of position in various organs of the human body are occasionally observed during life, but for the most part the preternatural situations of organs are discovered in the course of post-mortem examinations or in the dissecting-room.

Entire transposition of the visceral organs is extremely rare, but a sufficient number of cases have been reported to show that this condition is not at all inconsistent with good health and longevity. This case is reported for the purpose of showing the anatomical anomaly and of suggesting an explanation for the abnormal condition.

The organs are evolved and developed in the embryo, right or left, as are the hands and feet and other parts of the body which possess right and left symmetry. Hence all true cases of transposition are congenital, and not the result of morbid processes. Therefore, transposition of the viscus, or of the viscera, can not be acquired.

We must look to embryology for the only rational explanation which can be furnished of transposition of viscera. In reviewing the scant literature on the subject, I came across the following plausible explanation in the "Reference Hand-Book of Medical Science."

"It has been observed that in the early embryo the heart is situated precisely in the median line, and that it gives off two arches, which curve to either side and unite below in a single central trunk: these are the two aortæ, and the single trunk formed by their union becomes the abdominal aorta. As the septum between the two ventricles makes its appearance, that division of the right aortic arch which constitutes the vascular portion of one of the bronchial arches becomes obliterated, disappears, and loses its connection with the abdominal aorta; a branch, however, persists during

the whole of intrauterine life, and constitutes the ductus arteriosus, and another branch is permanent, forming the pulmonary artery. During the sixth week the heart is vertical and situated in the median line, with the aorta arising from the center of its base. At the end of the second month it is raised up by the development of the liver, and its apex presents forward. During the fourth month it is twisted slightly upon its axis, and the point presents to the left."

Von Baer suggested the theory that in a few instances the embryo lies with its left side directed toward the yolk, whereas the right side is normally in this position. He considers the condition in all probability the cause of the transposition.

Ingenious as this hypothesis is, it is, unfortunately, wanting in proof, and does not appear to explain the absolute reversal.

SUBTROCHANTERIC AMPUTATION FOR DIFFUSE SKIN CARCINOMA.

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The following case is of interest on account of the extent of the carcinomatous invasion and the clinical history, which gives another instance of the origin of carcinoma from post-natal embryonic tissue. The clinical examination revealed much evidence in favor of blastomycetes, and it was only after a most painstaking pathologic study by Professor Hektoen that a positive diagnosis of carcinoma was made.

Mr. W. P. R., age 23, American, had good health until 9 years of age, when he became the victim of a severe accident. While hanging on a train, he was struck on the inner side of the thigh by the sharp point of a diamond-shaped switch that caused a gaping wound of the thigh, extending below the knee. There was considerable hemorrhage at the time and the wound is said to have been closed by sixty-three stitches. After the injury there was a denuded surface on the inner aspect of the knee about the size of the palm of a hand. This was covered with skin-grafts taken from the father, mother and two sisters. The three latter are alive and in good health at the present time; the father died of pneumonia seven years ago. The whole surface healed well, except an area about the size of a dime, located just above the patella and which never healed. This ulcer was only skin deep. One year ago, there appeared six inches above this erosion, a black area in the old scar, which was exquisitely tender. The epidermis exfoliated, the base being of a deep-red color, and formed an ulcer; this rapidly extended, first along the scar tissue in a peripheral direction and later invaded surrounding healthy structures, involving almost the entire circumference of the thigh. There was a chain of enlarged glands in the groin.

The patient was in a very emaciated condition, having lost twenty-five pounds in weight during the five months previous to the operation.

Patient entered St. Joseph's Hospital Dec. 14, 1899, but on account of his weakened condition and feeble pulse, operation was not deemed advisable at this time. He was given a thorough course of supportive treatment, consisting of daily enemata of salt solution, forced feeding, alcohol, and large doses of strychnin, which

practice I always follow, if possible, as a preliminary to major operations. He gradually grew in strength, and subtrochanteric amputation was performed on Dec. 22, 1899. Immediately before the operation, the patient was given an ounce of whisky, per rectum, and 1/32 gr. of strychnin. The anesthetic was ether, by the open method. The usual orthodox amputation was performed, long anterior and short posterior flap. Hemorrhage was controlled by an Esmarch constrictor around the uppermost portion of the thigh, which was prevented from slipping by two mattress needles passed through the fleshy portion of the thigh. The operation was rapidly performed with virtually no loss of blood; nor was there any shock following, which I attribute to the rigid preliminary treatment. On account of the patient's weakened condition I deferred enucleation of the enlarged glands in the groin. The wound healed by primary intention and the patient left the hospital in the course of two weeks. He refused a second operation for removal of the lymphatic glands.

The following is the report of Professor Hektoen from the pathological laboratory of Rush Medical College:

Macroscopic Examination.—The specimen includes the left foot, leg and the greater portion of the thigh, the latter having been amputated at a little above the junction of the upper and middle thirds of the femur. The distance from the upper end



of the femur to the inner malleolus is 70 cm.; from the upper end of the femur to the lower border of the patella the distance is 27 cm. The knee is firmly ankylosed at nearly a straight angle. The tibia is longer than usual, measuring 43 cm. from the lower edge of the patella to the inner malleolus. There is also some anterior curvature in the tibia, the point of greatest convexity corresponding in front to the junction of the upper and the middle thirds.

The foot is slightly deformed, there being present some degree of talipes equino-varus: On the outer aspect of the foot, just in front of the outer malleolus, there is seen a small smooth scar about as large as a nickel and slightly depressed but unpigmented.

On the leg proper, several scars are present. These vary in size from that of a dime to that of the largest one situated on the upper half of the tibia, which extends, anteriorly and laterally, over an irregularly quadrilateral area measuring 12 by 15 centimeters. The outline of this cicatrix is irregular, and in many places the edges are decidedly pigmented.

This scar is directly continuous above the ulcer that involves the upper 2.5 cm. of the anterior surface of the tibia, the knee and the entire lower two-thirds of the thigh, being rather more pronounced on the upper and inner aspect of the thigh, where it extends down to and into the bone. The ulcer has affected the entire front of the thigh and extends laterally for a variable distance; at one point, namely, at the lower third of the thigh, it nearly encircles the limb, leaving about 8 cm. of skin surface, which although the site of an extensive scar is not now involved in the ulceration. The ulcerating surface is 30 cm. in length and measures variously from 10 to 22 cm.