and concludes that the atrophy is not the result of inflammation. The fibres so affected lie in contact with the pial membrane of the sheath of the nerve in the peripheral form, and with the prolongation of that membrane about the vessels in the central form. In the periphery, the above-described peripheral septum shuts them off from the remaining portion of the nerve.

Our author concludes that the result may be due to the repeated congestion of the pial membrane, which, being filled with blood, compresses the fibres lying contiguous to it, and so causes the atrophy. In the peripheral form the bundles of fibres which lie external to the peripheral septum are at a double disadvantage, as they are compressed between the two membranes. Moreover, the lymph spaces are especially numerous beneath the pial sheath and around the bloodvessels, and they may play an important rôle in this degeneration, injuring the nerve-fibres either mechanically, through compression, or chemically, through imbibition.

The functional consequence of this atrophy would, theoretically, be an enlargement of the blind spot, since it has been shown that probably the fibres that form the most external layers of the optic nerve at its anterior extremity, supply the retina immediately about the optic disc.

RELATIONS OF THE EXTERNAL OCULAR MUSCLES TO THE VENÆ VORTICOSÆ.

Fuchs⁷ has made a study of the topographical anatomy of the eye to determine whether, and if so, in what manner, a compression of the venæ vorticosæ by the external muscles can take place. He was prompted to this investigation by a statement made by Von Arlt, that such an action of the muscles during convergence produced acquired myopia through the congestion of the uveal tract. He accurately measured the distances of the points of insertion of the various muscles from the margin of the cornea. This he did in fifty-five eyes, thirty-one emmetropic, twenty myopic, and four hypermetropic.

In the case of the recti muscles, he found that while they were inserted with considerable symmetry with regard to the horizontal and perpendicular meridians of the eye, yet their distances of insertion from the margin of the cornea might vary considerably, even in the same eye. He also found that the breadth of the tendinous insertion did not correspond with the strength of the muscle. The rectus superior, the weakest of the four recti, always had the broadest insertion.

In myopic eyes, the insertions were broader than in emmetropic eyes, but were not farther removed from the margin of the cornea, which would indicate that the anterior half of a near-sighted eye is enlarged in its equatorial diameter, but not in its antero-posterior diameter.

He found that the line of insertion of the obliquus inferior made an angle of 19° with the horizontal meridian, but that of the obliquus superior of 45° with the same meridian, so that it is not correct to describe their lines of insertion as parallel, as is done in most of the text-books. The breadth of the insertions of the oblique muscles was found to be considerably greater in myopic eyes than in emmetropic eyes, which is without doubt, due to the stretching of the

sciera, as these muscles are inserted far enough posteriorly to be attached to that portion of the sclera which suffers most in myopia.

The venæ vorticosæ are divided into two pairs, an upper and a lower pair. The vertical meridian divides each pair. Both pairs pierce the sclerotic posteriorly to the equator of the eye, the upper pair at a distance of seven to eight mm., and the lower pair at from five and a half to six mm. In hypermetropia they were found nearer the margin of the cornea than in emmetropia, on account of the short axis of the hypermetropic eye; in myopia, on the contrary, the distance is the same as in emmetropia, showing that the distension of the sclera in the myopic eye makes the distance between the veins of each pair greater than it is in an emmetropic eye.

The study of the relations of the venæ vorticosæ, is, of course, the objective point of the paper. With regard to the four recti, the externus and the internus never over-lap the veins, and although the superior and inferior are so placed that their edges, and sometimes their surfaces, are in close relationship to the points of exit of the veins nevertheless, this occurs so far behind the equator, that they cannot exercise any pressure on the veins. With the oblique muscles, however, the conditions are very different. The obliquus superior may be so situated as to press on the point of exit of the upper and outer vein. In hypermetropia and emmetropia, the condition was found in twenty-three per cent. of the cases, while in the remaining seventy-seven per cent., the exit of the vein was so far behind the equator as to render this impossible; in myopia, this condition is reversed, and in seventy-three per cent. of the cases pressure could be so exerted. The upper and inner could be so compressed in only a very small proportion of the cases, and these were not myopic eyes. The obliquus inferior was found to be so placed that it invariably exerted pressure on the external lower vein, but never on the internal.

In the use of the eyes for distant vision this pressure of the obliques would be constantly interrupted, and the alternate contractions and relaxations of the muscles would assist the venous flow. In continuous use of the eyes for near work, the obliques would, in a large proportion of myopic eyes, exert a constant pressure on one vein of each pair, which would certainly lead to obstruction of the circulation, and perhaps to an increase of the myopia. On the other hand, Fuchs sought in many sections of emmetropic and myopic eyes for dilatation of the venæ vorticosæ, without finding such a condition present in a single case.

Hospital Practice and Clinical Memoranda.

A CASE OF MULTIPLE SARCOMA OF THE SKIN.¹

BY C. A. CHEEVER, M.D., OF MATTAPAN.

On the 3d of June, 1884, I was consulted by an American lady about sixty-five years of age, for ulcers on her legs. Her history was that she had always been well until a short time before seeing me. She had never been subject to any skin eruption, sore throat, headache, or in fact, any of the indications of constitu-

¹ Read before the Norfolk District Medical Society, Dec. 29, 1885.

⁷ Archiv für Ophthalmologie, Bd. xxx, Hft. iv.

tional infection. She had had two children only, both of whom had attained adult age. She thought she had had the ulcers about six weeks.

Examination disclosed three ulcers, situated one on each leg about four inches below the patella, and just at one side of the crest of the tibia, and one on the right thigh, at the junction of the lower and middle thirds, and upon the postero-external aspect. The ulcers all had healthy granulations in the centre, while the edges had a grayish and glazed appearance, were indurated, and somewhat elevated.

Those on the legs were each about the size of a silver dollar, and nearly round. The one on the thigh was about twice as large and oblong; the upper part was excavated to a depth of about a third of an inch, the lower part less deep, and surrounded by indurated tissue for about an inch on each side, freely movable on the deeper tissues, and apparently about an inch in thickness.

Finding quite a number of marked varicose veins, and nothing else appearing to cause the ulcers, I attributed them to the veins, and applied suitable treatment for that condition.

July 1st. The ulcers were looking better, and one of them was decidedly healing.

July 15th, I found a new condition of affairs; an efflorescence on the legs and arms of pinkish nodules, the size of a pea, freely movable on the deeper tissue, hard and elastic, with sharply-defined margins. On the forearms, were several nodules larger than the others, which the lady said had been there for some time; these were exfoliating fine, silvery white scales, and one of them as large as a nickel, had on the centre a brownish, semi-transparent crust. I was then told that the ulcers on the legs had been preceded by similar growths.

Although I could find no history of syphilis in the family, I thought the efflorescence, taken as a whole, more nearly resembled some of the later manifestations of that disease than of any other. I then gave, in addition to iodoform externally, red iodide of mercury, gr. 1-30, and iodide of potassium, gr. 2½ t.i.d.

August 1st, I found that the small papules had increased both in size and numbers. I was also shown on the crural region of both thighs, several ulcers of the size of a silver quarter-dollar. I counted between twenty-five and thirty diseased places in all stages of development, from the pink papule to the ulcer as large as the palm of the hand.

The process of ulceration was seen to begin on the surface, and at the centre of the nodules, when they were about an inch in diameter; and under cover of a crust yellowish or greenish-brown in color, it extended toward the edges, but at the same time, the nodules continued to grow laterally, so that by the time the new growth was removed by ulceration, the remaining ulcer would vary from one and a half to three inches across. The efflorescences were scattered without order or symmetry, over both lower and upper extremities. The head was free from them, and I was told that the body was also free. There had been no itching or burning at any time; the nodules were entirely painless and not sensitive; the ulcers have given but very little pain, and that has been confined to a few of them.

Aside from the skin trouble, and a certain nervous or mental depression, she seems perfectly well; her appetite is excellent, she sleeps well, bowels regular,

her color has improved, and the varicose veins have disappeared. She had, however, a marked disinclination to talk about her trouble, or to have any one know the extent of the disease; and from what I learned later, I am very certain that at no time, did I see all of the disease. The mercury salt was increased to 1-20 gr., and the iodide of potassium to 5 gr. t.i.d.

September 1st, the ulcers were all healing, except the smallest ones with the elevated ring-shaped margins of new growth, and some of these crateriform rings were undergoing absorption, as were also some of the smaller nodules that had not reached the stage of ulceration. No new papules had appeared. She felt well, and thought she was getting well. The iodide of potash was increased to ten grains t.i.d.

September 25th, she still appeared to be doing well. Some of the ulcers had entirely healed, forming a somewhat soft and deeply-pigmented cicatrix covered with a moist, scaly, and yellowish crust, exfoliating in pieces as large as a little finger-nail. The nodules appeared to be undergoing absorption; no new papules had appeared, but she complained more of nervousness than before. At this time, I tried to have a consultation, but the patient was unwilling, and it was postponed; but in conversation with Dr. J. C. White, I told him of the case much as described above. He agreed with me in thinking the disease seemed more like syphilis than any other, and at his suggestion, the iodide of potash was increased to fifteen grains t.i.d.

Several of the ulcers were healing rapidly, no new efflorescences had appeared. Her appetite was ravenous. She complained now, occasionally, of swelling of the feet and ankles. The urine was examined at intervals, and found normal each time.

November 9th. One new papule had appeared on the right leg near the knee. Several tumors had disappeared from this region, while others had ulcerated and were healing.

She was not sleeping well, and as her husband believed the medicine was the cause of her sleeplessness, I diminished it one-half and added one-half drachm of fluid extract stillingia comp. to each dose.

There formed about this time on the flexor surfaces of the fore-arms about a dozen new papules, resembling in every way those first described. At this time I was shown a tumor on the outside of the left thigh of a leaden gray color and about the size of a silver dollar, surrounded by an area of red and highly inflamed skin. The gray central and evidently necrosed tissue I removed with the knife, giving no pain and causing but very little hæmorrhage. The cut tissue was pearly white, soft, quite friable, and about three-fourths of an inch thick. Underlying it I found a layer of healthy granulations from which the necrosed tissue was separated by a layer of pus. With a poultice for a few days, iodoform powder, etc., the remaining ulcer was entirely healed in a week.

December 1st. She was failing all the time in appetite, strength and sleep; on the other hand, many of the ulcers had entirely healed, and the others were healing. Quite a number of the nodules had become entirely absorbed, the others were diminishing in size. Some had been absorbed more rapidly from one side than from the other, leaving crescentic ridges; growing from one of these ridges on the right forearm was a nodule much thicker than any of the others, with a thin, red, exfoliating epidermis and several small

veins coursing over it; this was the only tumor that showed a special fungating tendency, and was the one that was later on submitted to the microscope.

Some of the tumors had enlarged and become fused to neighboring ones, although for the most part they were discrete.

Two more large tumors on the leg had necrosed, and been removed. She was now reported as being delirious at night, and as sleeping only about two hours. The bromides have no effect.

December 16th. To-day Dr. J. C. White saw the patient with me. He said that from the appearances and history alone one could not tell positively if the disease be syphilis or sarcoma cutis, that some of the lesions if not accompanied by the others would be considered characteristic of syphilis, while considered as a whole the disease much resembled sarcoma, and that the microscope would furnish the only means of making a positive diagnosis. Still, from the fact that she had been so long on the mixed iodides without special improvement, he thought best to consider and treat it provisionally as a case of sarcoma, and although he could give very little encouragement for recovery he advised using Fowler's solution. A few days later I removed the top of the fungus-like growth on the right forearm; the cutting gave no pain, and very little bleeding was caused. The specimen was placed in alcohol and given to Dr. W. W. Gannett, whose report follows.

During the following week she rapidly failed, so that by December 21st, I found her in bed and attended by a nurse.

She was delirious, had a very rapid pulse, increased frequency of respiration, lips dry and cracked, tongue brown and coated; the ulcers had rapidly extended and many new papules had appeared. Brandy was given freely and morphine at night. All other medicine was omitted.

From this time to her death, which took place January 6th, 1885, there was a gradual failure; much of the time she failed to recognize those about her. The ulcers and tumors rapidly increased, both in size and numbers, so that at the time of death there were about two hundred of them, in all the different stages of development that have been described. All parts of the body, except the head, were invaded.

No autopsy was made. I learned from the family that the disease had been of about eleven months duration.

Dr. Gannett reported as follows:—

REPORT OF TUMOR REMOVED FROM THE SKIN BY DR. C. A. CHEEVER, AND SENT BY DR. J. C. WHITE, DECEMBER 20, 1884.

An ovoid nodule, measuring ten millimeters transversely, four millimeters vertically, of a rather firm consistency, grayish color. After hardening in Müller's fluid and alcohol a series of vertical sections was made with the microtome. The outer surface of the nodule was covered with a thin layer of epidermis. In the middle portion no evidence of a papillary layer remained; in the lateral portions a few papillæ were to be seen. Beneath the thin epidermal layer, extending to the base of the nodule, and occupying the seat of the corium and subcutaneous connective-tissue was a tissue made up wholly of small spindle-cells arranged in bundles; the bundles having various directions with reference to each other.

The nuclei of the cells were round or oval, and sharply defined. In some places a few delicate connective-tissue fibres could be made out lying between the cells, but there was nowhere any suggestion of an intercellular meshwork. But few bloodvessels were to be seen.

The tumor belongs to the connective-tissue series. From its abundantly cellular character and atypical appearance it deserves the name of sarcoma. From the form of the cells it is to be designated as a small spindle-cell sarcoma.

Diagnosis. Small spindle-cell sarcoma of the cutis.
W. W. GANNETT, M.D.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY.
SUFFOLK DISTRICT.

SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

DECEMBER 9th, 1885. The meeting was called to order at eight o'clock, by Dr. F. I. KNIGHT, chairman. The records of the last meeting were read and approved. A letter was read by the Secretary, relative to employing a stenographer for the purpose of taking short-hand notes of the proceedings of the section, but it was thought inexpedient to take any steps in this direction at this time. The regular business of the section was then taken up.

The first paper was by Dr. G. M. GARLAND, of Boston, entitled

"SOME CASES OF REFLEX NEUROSIS."

The cases were all at the Carney Hospital, and were the subject of close observation by the house officer, Mr. Gleason. They present a series of strange phenomena in the domain of reflex action, and are, for this reason, of interest. The discussion was opened at the close of the paper by Dr. Rotch, who spoke as follows:

"Mr. Chairman, the cases described by the reader are of unusual clinical importance from the fact that they occurred in adults, in whom symptoms of reflex origin are rare in comparison with infants and children, where this class of cases reaches its highest development, owing to the hypersensitive condition of the child's nervous system. These reflex phenomena are so pronounced in early life that we recognize in them the most serious obstacle to our making an accurate diagnosis, knowing well that any one of them may at times represent many and entirely opposite forms of disease, although the lack of speech of the infant, and the incorrect answer of the older child appear, at first, to offer the greatest barrier to a proper appreciation of the case.

As general examples of reflex symptoms, we have the different forms of eclampsia, the vomiting of cerebral disease, and the earache arising from irritation in the mouth during the dental periods. I will mention some special cases occurring in my practice which seem to illustrate the class of cases referred to in Dr. Garland's paper.

CASE I. A child two years old was seized with dyspnoea and cough, which continued until a purulent discharge from the ear drew attention to that organ,

¹ See page 25.