places as will, when fastened to the buckles on the jacket encasing the trunk, twist the head in the direction desired. The exact places for the buckles and straps can be determined only by experimentation in each case. Perineal straps to hold the jacket from rising are of use.

As a portable appliance to be used as after-treatment to prevent relapse, the wire collar devised by Dr. Buckminster Brown leaves little to be desired.

REMARKABLE CASE OF SACCULATED OR OF CIRSOID ANEURISM OF THE SECOND INTEROSSEOUS BRANCH OF THE DEEP PALMAR ARCH TREATED BY EXCISION.[1]

WITH EXHIBITION OF THE SPECIMEN.

BY JOHN B. ROBERTS, M. D.

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THE specimen which I exhibit this evening and its accompanying history are interesting, I think, because of the extreme rarity of the condition. I know of no similar case reported; but I have not had an opportunity to search for such in medical literature, because the operation was performed only a few hours ago. The specimen is fresh, and is exhibited now before the appearances have been changed by any preservative fluid.

Dr. Charles H. Thomas requested me a few days ago to assist him, at an early date, in operating upon a tumor of the hand in a boy, aged sixteen years. From his earliest childhood he had been under Dr. Thomas's observation, and had had a small elongated tumor upon the *dorsal* surface of the first phalanx of the left ring-finger, while in the *palm*, at the junction of the bases of the middle and ring-fingers, was a larger swelling. These were considered masses of dilated veins, as they had a spongy feel, and at times showed a bluish color. There was no very definite connecting band of swelling between the dorsal and palmar enlargements. No special pain was experienced unless the parts were struck, and no marked growth occurred. Hence the child's mother was advised to have nothing done. As the boy grew, the hand and tumor increased, but held the same relative proportions. When the boy began work in a machine-shop, the skin became thickened and soiled, and the bluish tint was no longer discernible.

About two months or less ago, the growths seemed to enlarge and to be accompanied by considerable pain, and Dr. Thomas advised the use of a compress in the palm and a bandage around the finger. This the boy wore at nights, and usually from Saturday to Monday morning when he returned to his work. Recently there was noticed pulsation in the palmar tumor and a lobulated feel; and Dr. Thomas feared that an arterial aneurism existed.

When I examined the boy last evening, I found on the back of the third finger a hard fibrous-like tumor, as large as a watermelon seed, with the long diameter corresponding to the length of the phalanx. In the palm was an illy defined swelling covered with thick skin, very sensitive to pressure, and occupying about the area of a silver half-dollar. No swelling was evident connecting the two tumors. On the ulnar side of the palmar mass moderately distinct pulsation could be felt, which quickly stopped when the radial artery was compressed at the wrist, but merely decreased in force when the ulnar was pressed upon with the finger. No pulsation was felt in the dorsal tumor.

The boy had severe pain even when no pressure was made upon the growth in the palm.

I gave it as my opinion that the growth was an arterial angeioma connected with the second interosseous branch of the deep palmar arch, having anastomoses with the digital branches of the ulnar artery. Dr. Thomas considered it possibly this, but probably a sacculated aneurism. His diagnosis has proved to be the more correct.

It was determined to employ the Esmarch elastic bandage, and to make a free incision over the tumor and dissect it out, whether it be angeioma or aneurism. As Dr. Thomas was disabled by a painful boil on his right hand, he requested me to operate. The boy was etherized and the elastic bandage applied.

I made an incision from a point a little in front of the superficial palmar arch to the commissure of the fingers, and came upon a mass of fat and small vessels, in the centre of which was a bluish nodule, resembling larger vessels containing blood not driven out by the elastic bandage. Keeping close to the skin, and going down to the sheaths of the flexor tendons, I dissected the mass free. Lying alongside of the palmar interosseous muscle going to the ring-finger (second interosseous) we saw a comparatively large vessel which seemed to be the main feeder of the mass. I then extended my incision, making a straight cut along the side of the ring-finger, dissected up the skin, and enucleated the hard nodule lying on the back of the first phalanx. This seemed connected with the other mass by some fibres or small vessels, and both were removed as one piece. The wound was then plugged with dry muslin to stop the general oozing that occurred after removal of the bandage, and a tight bandage applied. No ligatures were required, because my incisions were made at a distance from the tumor.

Dissection of the palmar mass showed that I had removed a small body, about three quarters of an inch in diameter, containing clotted blood, and surrounded by adipose tissue and nerves. Small collapsed vessels in large numbers may perhaps be found in this adipose tissue by microscopic examination. Only a few larger ones were recognizable by ocular inspection because of the absence of blood from the interior. The tumor, as is seen on the plate, consists of three lobules of rather unequal size, arranged somewhat as a trefoil. The largest one of them, which has been punctured, allows the escape of soft clot; this sac is about one half an inch in diameter. The three sacs seem to be separate, because the head of a pin introduced into one does not pass into the others. The two smaller sacs or lobules are hard, as if the clot was old. One has been laid open, and shows a white centre, or nucleus, of cartilaginous consistence surrounded by a layer of red clot. On the surface of this three-lobed tumor runs a nerve, which probably was the seat of pain from pressure, and parallel to it a small artery. Both of these become lost in the mass, at the upper end of the tumor, which was thought to contain the main supply of the aneurism, and around which a string was tied and left for identification.

The tumor from the back of the finger is hard, and on section shows an irregularly colored red surface.

[1] Read May 3, 1882, before the College of Surgeons of Philadelphia.

I believe the tumors, therefore, to be small sacculated aneurisms evidently allied to or identical with the variety called cirsoid aneurism. The one on the back of the finger and the two smaller lobules in the palm are undergoing cure by coagulation, induced in the dorsal one undoubtedly by the pressure from the bandage used at intervals during the last six weeks or two months.

If the diagnosis had been more certain as to aneurism, I believe that digital compression of radial and ulnar arteries, or the use of an Esmarch elastic bandage to the forearm, would have been proper treatment before excision was attempted.

The early period of life (about three years) at which the trouble was noticed primarily renders it probable that the aneurisms were not originally traumatic. It is possible, I suppose, that the vessels of an arterial angeioma may have become so dilated as to resemble these multiple aneurisms.

The similarity to cirsoid aneurism is certainly very great, though there are some points which differ somewhat from the usual clinical history of these growths.

[After the reading of the preceding paper:]

Dr. W. W. Keen called attention to the danger of using coagulating agents in such cases, and spoke of a case of traumatic origin he had seen in consultation, in which a few drops of Monsell's solution had been injected into the aneurismal sac, and gangrene had followed, necessitating amputation of the hand. He thought compression of the radial and ulnar arteries would probably have accomplished a cure, and the risks of an operation would have been avoided. With regard to the small tumor on the dorsal surface of the ring-finger, he thought it unlikely to be an aneurism. Nothing short of a microscopical examination would determine its nature.

RECENT PROGRESS IN OPHTHALMOLOGY.

BY O. F. WADSWORTH, M. D.

THE NATURE OF TRACHOMA AND SOME OTHER DISEASES OF THE CONJUNCTIVA.

SATTLER[1] considers the trachoma granules to be a specific product, and the most characteristic anatomical sign of the trachomatous process. He denies that they arise from an enlargement of lymph follicles normally present in the conjunctiva, or that any such exist in the normal conjunctiva. Instead of the granules being lymph follicles, they consist, aside from a network of capillaries, of round or oval nuclei, imbedded in a finely granular substance, and of fragments of nuclei. These nuclei are not surrounded by protoplasm as are the nuclei of the lymphoid cells of the conjunctiva.

In the secretion from the various stages of trachoma, Sattler found a single form of microbion, a circular micrococcus, somewhat less in diameter than the micrococcus found in blennorrhœa, but which in its forms of growth, as shown by cultivation, agrees with the latter in all essentials. Always in active movement, the micrococci were seldom single, occasionally in pairs, but more often three or four together, arranged in the form of a triangle or quadrangle of nearly equal sides. This arrangement seemed characteristic both in the trachomatous and blennorrhœic secretion. They were often attached to the surface of epithelial and pus cells, also within the latter in contact with the nucleus.

If trachoma be, as generally assumed, a local disease, caused by infection, and the micrococci be the bearers of the infection, and determine by their action the character of the disease, they should be found not simply in the secretion of the mucous membrane, but in the tissues of the conjunctiva itself. A trachoma granule was excised under antiseptic precautions, its contents carefully removed and placed in the conjunctival sac of another individual, and in seven days evident signs of the disease appeared. It is of interest to note that in this case, in the earlier stages of the disease, and up to a certain point, no clinical distinction between it and the so-called follicular swelling or follicular conjunctivitis could be seen. Further, the contents of a granule were placed in sterilized solutions and in isinglass jelly, and the development of the microbion watched. Inoculation from a well advanced cultivation of this sort also produced the disease after a time of incubation of eight days.

Anatomically the micrococci were found in the granules, both in sections and in the spread-out contents, attached to nuclei and fragments of nuclei. The nuclei showed changes, particularly in their size and behavior toward coloring matters. These changes were not only regressive but also progressive; there were plain indications of division. But besides pathological alterations in the granules, these occur also in the surrounding tissue; nuclei, isolated or in small collections, were seen, which were larger, and colored less readily than normal, and were beset by micrococci.

In the older granules of trachoma there is often a thickening of the adventitia of the vessels, which may go on to an obliteration of their calibre and their transformation into a solid cord, and this, Sattler believes, bears an important part in the so-called connective tissue change. Another source of connective tissue is found in the stationary elements of the "capsule," and in advanced cases, especially in the hypertrophied papillary forms, there are often signs of new formation of connective tissue in the lymphoid infiltrated conjunctiva. He could, however, find no evidence that the elements of the granules themselves underwent this transformation, and thinks that, in general, formation of connective tissue as a result of the trachomatous process has been overestimated, and that in many cases, at least, there is rather, with the gradual disappearance of the granules, an atrophy of the conjunctiva.

The formations described as glands by Iwanoff and Berlin in advanced cases of trachoma, Sattler asserts he has been familiar with for years, but agrees with other writers that they are not new-formed glands, but the appearances seen are produced by infoldings of the surface during the irregular swelling of the tissues.

The follicles in the so-called follicular conjunctivitis also contain micrococci, and are distinguished anatomically from trachoma granules only by their exclusively superficial situation, by a relatively greater number of intact or slightly altered nuclei, and by some unimportant differences in the capillaries and frame-work. Both in this affection and in trachoma there is often an extensive infarction of the lymph vessels with lymphoid cells.

In an instance under Sattler's observation, a mother, suffering from moderate leucorrhœa during pregnancy, gave a light blennorrhœa to her infant, and she herself being infected from the child, developed trachoma.

[1] Bericht der Ophthalmologischen Gesellschaft, Heidelberg, 1881.