Original Articles.

ACUTE CIRCUMSCRIBED ŒDEMA.¹

WITH A REPORT OF THREE CASES AFFECTING THE HAND.

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THE three cases which I have the pleasure of presenting to you this evening appeared at the Surgical Out-Patient Department of the Carney Hospital within a short space of time last summer. They evidently all belonged to the same class, but they were unlike anything that I had ever seen, and I was led to look up the subject, to find that they were examples of a well-recognized affection which has received very scant attention in the text-books or in general medical literature.

These cases were characterized by an acute and rapid swelling of one hand and forearm which began without known cause and reached an enormous size without being accompanied by pain, local heat, or constitutional disturbance.

The occurrence of local œdema in various parts of the body, under such conditions, has been recognized and described as angio-neurotic œdema, acute circumscribed œdema, pseudo-phlegmonous œdema and similar names. It is perhaps most commonly seen as a localized and transient swelling of the lip, face, or larynx.

CASE I. Miss M. D., twenty-three years old, single, telegraph operator.

The patient appeared at the hospital March 25, 1890, with the left hand and forearm enormously swollen. The swelling had begun without known cause four days previously, coming on in the night, and had increased up to the time of her visit to the hospital. The previous history was good, there was no account of any rheumatism or other trouble, and up to within a few days the patient had been in excellent health. Just then she felt rather poorly and had lost her appetite.

The temperature was normal, and there was little or no pain in the affected arm. The appearance was that of an excessively severe cellulitis of the hand and arm, but there was no local heat, and the skin was pale on account of the tension caused by the swelling. There was no evidence of any lymphangitis, no tenderness, and the swelling was elastic to the touch. It involved the hand and forearm with a slight enlargement above the forearm. Dr. Temple, who saw the case with me, was unable to make any diagnosis. On general principles a poultice was ordered and salicylate of soda in large doses, and the patient detecting the uncertainty regarding her case, did not return. I saw her October 13th, and obtained the history of the remainder of the attack. The swelling in the left hand subsided gradually without new symptoms, lasting about four weeks, but before that hand was well, the right hand and arm began to swell in a similar manner and the second attack proved more persistent than the first, lasting six or eight weeks. When it subsided it left a certain amount of stiffness of the fingers, and a tendency to the formation of subcutaneous ecchymoses which are still seen from time to time. The general health is now excellent.

This case is of particular interest in its very long

duration as compared with most of the reported cases. It bears, of course, a close resemblance to rheumatism, but pain, local heat, and elevation of temperature, were absent, there was no exposure or history of rheumatism, and the affection was not controlled or affected by salicylate of soda.

CASE II. Thomas B., thirty-five years old, tailor.

July 28th, 1890, the patient appeared at the hospital with extreme swelling of the right hand and wrist which had begun suddenly in the night, thirty-six hours previously, and had been progressively increasing. The patient's health was excellent, and the swelling began without known cause, being at first accompanied by intolerable itching. There was no pain, tenderness, or local heat, the temperature was normal and the appetite good.

The swelling involved the hand and lower half of the forearm and terminated by a transverse abrupt line; the swelling was elastic and gave a sense of fluctuation. Poultices and salicylate of soda were again prescribed. On the following day the œdema had advanced two or three inches up the forearm and again terminated in an abrupt line. The condition of the hand was the same; on the third day the swelling had extended above the elbow, but had diminished somewhat in the hand.

From this time on the œdema gradually diminished and in a week from its onset it had entirely disappeared although the hand did not return to its full usefulness until three or four days later. There has been no repetition of the attack, and the patient is now in excellent health.

CASE III. John S., twenty-three years old, teamster.

July 30, 1890, this patient appeared with the right hand and forearm very much swollen. The attack had begun twenty-four hours previously without known cause, and was not accompanied by pain, heat, or febrile disturbance. No cause was known for the attack. The characteristics of the swelling were in every way like those just described in Case II. Both these cases were also seen by Dr. Sears, who did not consider them in any way rheumatic.

An advance was made in the treatment of this case in the use of a dry compression dressing instead of a poultice. Sheet wadding was applied to the arm and over that wet pasteboard was firmly bandaged which dried and furnished firm, even compression. This case progressed faster than either of the others, and in four days from the beginning of the attack the swelling had practically disappeared. Since then the patient has remained in perfect health.

Medical literature contains a few articles relating to this affection, and reported cases are not very many. This cannot be due to the rarity of them so much as to the manifold appearances which they present, thus preventing their recognition as examples of one affection, and to the fact of the benign and transient character of the swelling which makes the affection seem of little account. It is to German writers that we are chiefly indebted for a recognition of this affection.

Its characteristics are simple; local œdema of a transient character occurs in various parts of the body, without known cause in most instances. In some cases it is accompanied by slight digestive disturbances while in others no constitutional symptoms are present. It is not accompanied by high temperature which may, however, be present as a result of the digestive disturbance. Local heat is absent as well as all evidences

¹ Read at the Boston Society for Medical Improvement, October 27, 1890.

of lymphangitis. Pain is not a frequent symptom, but it may be present and is generally of a burning character. Urticarial eruptions not infrequently are present at the same time as the swelling and itching, and burning are often complained of at the site of the swelling without objective signs. Abdominal colic is mentioned by some writers as a common accompaniment of local œdema, and is attributed to a similar œdema of the intestinal walls.² In the same way watery vomiting is accorded a very prominent place in the symptomatology by Strübing, who considers it due to a similar œdema of the gastric mucous membrane.³ Most reported cases, however, lack these two symptoms.

The swelling most frequently affects the lips, the eyelids, the face, the larynx, the hand, and the genitals, and more infrequently, the legs.

Affecting the lower lip it is a fairly common affection, and ten years ago Dr. T. B. Curtis reported to this Society some twelve cases of this sort. At that time that affection was considered more a disease by itself than, as now, merely one manifestation of a tendency to local œdema.

Affecting the eyelids and face, the affection presents no points of special interest.

As an affection of the larynx, acute transient œdema becomes at once alarming and very dangerous. Cases have been reported where the swelling after affecting various parts of the face, disappeared to reappear in the larynx and cause intense dyspnoea.⁴ In other cases it was located primarily in the larynx.⁵ Fatal cases have been reported⁶, and in others tracheotomy has been necessary to save life.⁷

In other locations such as the hands and feet, the disease presents no other characteristics than those already named.

The affection may be very transient, lasting only as long as an urticaria; but more commonly it lasts for several days, and rarely may persist for weeks. When once it has appeared, it is likely to be seen again at some future time, and it may reappear at the original place or at some new part of the body. In certain cases it is very persistent, reappearing again and again at regular or irregular intervals, sometimes taking on a well-marked periodicity. Men and women are equally liable to the affection, and young adult life contributes the most cases. In children reported cases are few.

The cause of the attacks is generally obscure in the extreme, and very little is known of the etiology or pathology of the affection. Heredity plays a marked part in the causation of many cases, and Osler has related a very striking instance of this, where circumscribed œdema of various parts of the body has occurred in five generations of the same family. Quinke, Strübing and Falcone have noted in their cases the hereditary influence.

Malaria evidently causes certain cases as in the one reported by Matas,⁷ where a swelling of the lip occurred at noon every day to disappear late in the afternoon. This was controlled immediately by qui-

nine; but most often even when marked periodicity seems to govern the attacks, treatment by quinine is reported as being unsatisfactory.

In certain cases the attacks are associated with menstrual derangements, and in one case œdema of part of the face occurred after awakening from hypnotic sleep.⁸

In persons predisposed to the occurrence of the œdema, the slightest traumatism is often sufficient to locate an attack, and as in all diseases of obscure etiology many cases are attributed to taking cold.

Most of the reported cases have occurred in the spring and summer.

The question of the pathology of the affection is one of greater physiological than practical interest. As a matter of fact, nothing whatever is known as to the cause of the œdema; and the assumptions of the various authors to explain its occurrence are, for the most part, wholly gratuitous. It is said that paralysis of the vaso-constrictors or irritation of the vaso-dilators is present, which explains nothing, while other writers find an equally obscure explanation in assuming an affection of the trophic nerves.

Experiments have shown well enough the connection of abnormal nervous conditions and local œdema.

Localized œdema occurs in connection with diseases and injuries of the peripheral and central nervous system. In hemiplegia, neuralgia, etc., it is a symptom so well-known that it needs no comment. In the injuries to the nerves of the arm which result from pricking a nerve in bleeding, œdema of the parts supplied by that nerve is an occasional symptom,⁹ and the same effect was observed by Weir Mitchell in bullet injuries.¹⁰

Experimentally it has been shown that certain irritations of the nerves are capable of producing local œdema. Morat¹¹ divided the auricular nerve of a rabbit and stimulated the central end, but failed to produce œdema. Ostromouf in a similar experiment after dividing the lingual nerve of a dog produced œdema of half of the tongue by a stimulation of the peripheral end of the nerve with the induced current.¹² and Vulpian in a similar experiment demonstrated that long continuance of the irritation and the œdema, resulted in changes in the finer arterioles.

It hardly seems worth while to take up your time any further in the discussion of this aspect of the subject further than to call your attention to the fact that there is abundance of clinical and experimental evidence¹³ to show the connection of local œdema and an abnormal condition of the nerves, and it is in some such vague explanation that one must take refuge in accounting for the occurrence of local œdema.

In the treatment of the affection there is little to be said. It is benign and self-limited and will get well of itself: and medication seems to have no effect upon its course. In fact, except in cases of œdema of the larynx, there is no real need of active measures. Iodide of potash, arsenic, salicylic acid and similar drugs have notoriously failed to have a good effect,

⁸ Lacher: Berl. Klin. Wechsft., 1885, 40.

⁹ Maligne: Gaz. des Hôp., 1840.

¹⁰ Roux: Gaz. des Hôp., p. 101.

¹¹ Hamilton: Arch. gén. de Méd., 1838, II.

¹² Coyaba: Quoted by Castelli, Loc. cit.

¹³ Injuries of the nerves.

¹⁴ Quoted by Castelli.

¹⁵ Cohnheim: Vorlesungen über allg. Path. 2. Auf. p. 135.

¹⁶ Kanvier, Roddaert, Helm and Rotz.

¹⁷ Mougout: Recherches sur quelques troubles consec. aux affections des nerfs, 1867.

¹⁸ Matthieu and Weill: Arch. gén. de Méd., 1885, p. 171.

² Couty: Gaz. Hebdom., 1876. Henoch: Berl. Klin. Wechsft., 1874.

³ Strübing: Zeitsch. f. Klin. Med., 1885, 9.

⁴ Kiehl: Wien. Med. Presse, 1888, II.

⁵ Quinke: Monatshefte f. Pract. Dermatologie, 1882.

⁶ Landon: Berl. Klin. Wechsft., 1880.

⁷ Cuntz: Archiv. für Heilkunde, Bd. xv.

⁸ Goltz: Deutsch. Med. Wechsft., 1880, 17.

⁹ Osler: Am. Jour. Med. Sciences, 1888, p. 362.

¹⁰ Matas: New Orleans Med. Jour., October, 1887.

and generally quinine is unsatisfactory. No plan of treatment has been formulated. The recorded cases are merely a list of failures from a therapeutic point of view. Cases where constitutional disturbance has been present, and especially cases where the attacks recurred, have seemed to be relieved by general hygienic treatment.

In cases of oedema of the hand or foot, compression by a Gamgee dressing or by a flannel bandage seems to hasten the disappearance of the swelling.

A list of the chief recorded cases and of the general bibliography is appended:

- Castelli (2 cases). Thèse de Lyon.
 Elliott, G. T. (1 case). Jour. Cut. and Ven. Dis., Vol. VI, p. 19.
 Graham (1 case). Canada Pract., February, 1885, p. 33.
 Jamieson (1 case). Edin. Med. Jour., 1883.
 Mathieu and Weill (1 case). Thèse de Paris.
 Moxon (1 case). Med. Times and Gaz., February 9, 1878.
 Smith (4 cases). Med. News, March 23, 1889.
 Matas (1 case). N. O. Med. and Surg. Jour., October, 1887.
 Richl (4 cases). Lond. Med. Rec., December, 1887; and Wien. Med. Presse, 1888, II.
 Quincke (1 case). Monatshefte f. Pract. Derm., 1882.
 Dubousquet Laborde (2 cases). Paris Méd., May 15, 1886.
 Johnston (1 case, child). Arch. f. Kinde., VII, 125.
 Lewinsky (1 case). Berl. Klin. Wechsft., 1885, No. 31.
 Lacher (1 case). Berl. Klin. Wechsft., 1885, No. 40.
 Weiss (1 case). Wien. Med. Wechsft., 1882, 14.
 Strübing (3 cases). Zeitsch. f. Klin. Med., 1885, 9.
 Osler (1 family with several cases). Amer. Jour. Med. Sciences, 1888, p. 362.
 Curtis (several cases situated in lip). Boston Med. and Surg. Jour., 1880, II, 556.
 Dinkelöder (series of cases). Ueber Acutes Oedem. Kiel., 1882.
 Falcone. Gazzetta Degli Ospitali, February 24, 1886.
 Matas. N. O. Med. Jour., October, 1887.
 Milton. Edin. Med. Jour., December, 1876.
 Rapin. Rev. Méd. de la Suisse Romande, December 15, 1886.
 Vernueil-Potain. Arch. Gén. de Méd., 1885, p. 656.
 Conas. La Loire Méd., December 15, 1886.
 Troisier. Prog. Méd., 1884, p. 3.
 Nogel. Prog. Méd., 1884, p. 846.
 Chauvet. Séance du 8 Fevr., 1884; Soc. Méd. des Hôpitaux.
 Castelli. Contribution à l'Étude des Oedèmes Aigus Chirurgicaux, Thèse, Lyon, 1886.
 Artas. Cont. à l'Étude des Oedèmes d'Origine Nerveuse, Thèse de Paris, 1884.
 J. Weill. Cont. à l'Étude Clin. des Oedèmes Périphériques, Paris, 1885.

FATAL CASE OF LEAD POISONING IN WHICH ATAXIA WAS THE PRINCIPAL SYMPTOM (PSEUDO-TABES).

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A. B., fifty-four years of age, married, was seen in consultation with Dr. S. D. Presbrey, of Taunton, in January, 1890. He stated that three years ago he suffered from numbness in the hands which gradually passed away. Soon after he noticed numbness in the left foot which has persisted up to the present time, and has extended gradually up the leg and into the back. The numb feeling was at first accompanied by a prickling, which subsided. This symptom together with a staggering gait of gradual onset and progressive character constitute the chief complaint at present, excepting that he is rather easily tired, and has an unpleasant sensation in the head increased by walking, and when weary. He does not complain of absolute pain in the head or elsewhere, but of a slight tenderness in the calf. About a year ago he had an acute attack of stomach and bowel trouble lasting a week, accompanied by nausea. Otherwise than this there has been no vomiting and no colic. There has been no double-vision, no vertigo, no blurring of the sight

or other defect of vision, no bladder or rectal irregularity, no darting or other pains, no *crise-gastrique*. There has been no loss of power in the arms or hands, no wrist drop.

No history of cold or other exposure could be elicited; there was no specific history; and no history of any excess, of malaria or the use of tobacco or alcohol. The patient stated that he had always been of a nervous temperament, always sensitive to changes in the weather and to noises over his head. There had been, however, no special accession of trouble in this direction of late, nor any difficulty of devoting his mind to work or accomplishing his business, which was one requiring brain work alone (real estate and insurance). There have been no convulsions. Sexual power was lost four years ago.

Physical examination showed a tall, delicately built man in poor flesh. His gait was so unsteady as to require him to lay hold of objects at times to keep his balance, and he could not stand with the eyes closed and feet together. The tendon reflex was normal, there was no ankle clonus. The pupils were alike and reacted normally to light. The patient found it difficult to step up into a chair with the left foot, and could hardly do so with the right. There was a slight loss of tactile sensation in the left foot, and considerable loss of muscle sense, as evidenced by the fact that he could not tell with the eyes shut whether the great toe was moved up or down. There was some sensitiveness to pressure over the muscles of the calf of the leg, not particularly in the course of the nerves. The muscles were generally rather soft and small, but there was no atrophy of any particular muscle or group of muscles, nor any complete motor paralysis, but considerable general weakness, and marked incoordination. There was no objective loss of sensation discoverable excepting in the left foot. There was no sensitiveness of the back. The urine was found normal. The heart and lungs had been carefully examined by Dr. Presbrey and found normal.

It was decided as a result of this examination that no spinal disease existed, but that the symptoms were due probably in part to nervous prostration, in part to a low form of neuritis of unknown origin. He was put upon nux vomica and compound tincture of chichona, exercise restricted, and warm bathing advised. A mild galvanic current was applied to the limbs.

I next saw him in about three weeks, when he reported that he had been better and worse, that riding and electricity made him worse. At times slight numbness has appeared in the fingers. He complains of drawing sensations up the legs and in the abdomen, not fixed in locality. The left calf is quite sensitive. There is a burning sensation in both feet. The sensation of the foot is found somewhat improved, otherwise physical examination reveals no special change. The pulse is 92, of fair character. Electrical treatment had been already discontinued by Dr. Presbrey, and no further change was advised.

Two months later I saw the patient again, and on going over the whole case carefully with him found that the commencement of the trouble occurred soon after moving from one house to another. It also appeared that another member of the family had complained at one time of a slight numbness in the fingers. These facts lead to a suspicion that some form of chronic poison might be at the bottom of the matter, either arsenic or lead. There was no blue line, wrist