before and after the removal of the crystalline lens for high myopia.

BIBLIOGRAPHY.

1. Ophthalmic Record, February, 1898.
2. Centralblatt f. Praktische Augenheilk., March, 1897.
3. Graefe's Archiv, 1897, vol. xliii.
4. Annals of Ophthalmology, July, 1899.
5. Archives of Ophthalmology, January, 1897.
6. Ibid., October, 1899.
8. Lancet, July 1, 1899.
9. Quoted by Cross.

ON CERTAIN CLINICAL FEATURES OF EPIDEMIC INFLUENZA.*

HOWARD S. ANDERS, A.M., M.D.

Clinical Instructor in Physical Diagnosis, Medico-Chirurgical College; Physician to the Samaritan Hospital.

PHILADELPHIA.

In its symptomatic manifestations influenza is the hysteria of epidemic disease. Its puzzling obscurities, unique development, grotesque variations, distressing complications, and surprising sequels, make it paradoxically a type of the atypical in the class of infectious diseases, as is its functional analogue among the neuroses. No tissue seems too hidden; no structure, too strong; no function, too staple; no organ, too resistant, nor organism too robust to escape its Briarean grip.

This introductory arraignment is not stated as a proposition for subsequent proof—that is hardly necessary in the presence of practitioners, most of whom have already made a similar induction—but simply as a potential head from which the octopus-like tentacles grow, reach out, suck and sap their victims in the many ways more specifically referred to in what follows. My observations and deductions are based upon an analysis of 128 cases of influenza.

Onset.—The type of onset most frequently met with in the epidemic just passed was a combination of the cerebrospinal and respiratory forms; for the first two or three days, however, the symptoms of the former element predominated over those of the latter. In cases characterized by severe head, back and limb pains, prostration was extreme for from five to seven days; while those in which the dry bronchial cough was most distressing were not nearly so prostrated; indeed, many such did not feel ill enough to remain in bed more than one or two days, if at all.

A special feature in the onset of a great number of cases was the early appearance of congestion and suffusion of the conjunctivæ, a feature which, it will be recollected, was very distinctive about the third week of December, 1889, when the first cases of the great pandemic then beginning here were rapidly increasing in number.

Fever.—The mild cases showed little or no rise in temperature; and in the cases of severe suffering the temperature rose above 103, and that only during the first two or three days of the disease; in two uncomplicated cases only did the fever reach 105, each case representing an extreme of life, one having occurred in a 14-month infant, and the other in a woman of 72 years. The fever declined usually by a rapid lysis lasting two or three days. Continued fever for ten days was observed in one case. Subnormal temperature was frequent during convalescence, associated with bradycardia. In several instances the thermometer registered a daily remission ranging between 95.4 and 97 for nearly a week.

Cerebrospinal System.—Of the 128 cases, 6 were affected with such specially severe pains in the loin nerves and muscles as to indicate a true lumbago, although general pains and aching were also present. Pain and soreness of the sternocleidomastoid and other neck muscles were frequently noticed in connection with influenzal sore throat. Cephalalgia of intense type was present in 7 cases, the pains having been of a constant, severe, throbbing nature, with occasional sharp neuralgic darts, particularly through the temples. In a few cases marked nuchal pains, similar to those of a malarial paroxysm, were met with. One woman suffered greatly for nearly forty-eight hours from burning pains in the front and outside of the left thigh. There were 9 cases of influenza characterized by special involvement of one or more intercostal nerves, principally around the lower half of the chest. So prominent were the pains here that one felt almost sure that pleuritis must be present, until careful physical examination and closer study of the behavior of the pains and of the course of the case gave negative results in that direction. Enteralgia was marked in one case. In this connection Franke[1] mentions having met with peripheral neuritis of the intercostal and abdominal nerves simulating pleuritis, pericarditis, gastric ulcer and appendicitis. He refers also to the occurrence of pain and tenderness on the sole of the foot in some recent cases of "grip," due to ostitis of the tarsal and metatarsal bones, or to inflammation of the plantar fascia. Not one of my cases was so affected. However, in a case of neuritis affecting the plantar nerves of the left foot, which, for a time, closely simulated metatarsalgia or Morton's painful affection of the foot, the moderate pain, tenderness and disability beginning early in December, 1899, became particularly severe and intractable during the height of the influenza epidemic in March and April last; since that time rapid subsidence of the symptoms has taken place. This case was both rheumatic and traumatic in origin, having resulted from a strained position of the foot on damp ground while playing golf, the patient having a history of rheumatic sciatica and myositis. In 3 instances otalgia was a marked symptom; in one case facial neuralgia on the left side was the prominent feature for the first two days of the "grip" attack. Only one case manifested extreme mental disorder; this took the form of an acute maniacal delirium lasting nearly three weeks. The patient, a woman aged 50, was stubbornly deluded with the idea that she would die, even when much improved physically, saying often day and night, "I'll never get well; I'll never get well." She was passing through the menopause, had suffered somewhat from insomnia and gastrointestinal indigestion with flatulence, and had an unfavorable family history; an uncle and two brothers had died insane, and another brother is on the verge of insanity with alcoholism. The patient's previous mental and physical balance and health—before the climacteric—was excellent, and at this writing—June 4, 1900—her equanimity is nearly restored. Spitzly[2] reported a case of maniacal excitement which began on the fourth day of an influenzal attack and lasted nearly a week, ending in complete recovery.

Conjunctivitis.—As mentioned before, this was a frequent concomitant of the influenza epidemic and, as well, early in the attack of a number of cases. In 13 I found the hyperemic and watery membranes and eye-lids markedly affected, besides 4 cases in which suppuration had set in. The most severe case of purulent conjunctivitis occurred in a retired merchant aged 72, who had been afflicted with chronic articular gout for about twelve

* Presented to the Section on Materia Medica, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

years; a purulent bronchopneumonia was also associated with the influenza attack.

Otitis Media Purulenta.—This was present in 2 cases: in one it appeared five days after the onset in an infant having a severe bronchitis at the same time; in the other, in a medical student, it terminated an attack of influenza which began one week after a sharp attack of follicular tonsillitis had subsided.

Faucial, Tonsillar and Pharyngeal Inflammation.—A great many cases of influenza began with moderate coryza and faucial or pharyngeal soreness. In fact, faucial redness was found to be an early objective symptom of considerable constancy and value in the diagnosis. In 12 cases only was there distinctly marked tonsillar inflammation—not follicular—associated with the acute stage of the disease.

Respiratory System.—Laryngitis was a prominent manifestation of la grippe in 7 of my cases. There was little or no fever at any time; and the general aching and depression were seldom present to a degree that required a stay in bed longer than one day. The onset was characterized by sudden huskiness of the voice, and, within twenty-four hours, speaking became a mere wheezy whisper. It may be worthy of special record that, by stethoscopic auscultation over the thyroid cartilages of the larynx, in every case, one or two high-pitched dry or sibilant râles were heard, and during expiration only. In one case of influenzal laryngitis the nervous depression, although slight, lasted a little over three weeks.

Bronchitis was more or less common in nearly all of the cases, but I have noted 23 in which this was especially severe. And yet, the almost total and continued absence of any physical sign—any interrupted respiratory murmur or dry or moist bronchial râles—makes one hesitate to call the cause of the distressing, irritating, and exhausting coughs and substernal sense of tightness and oppression a real bronchitis. Indeed, it seemed that the cough was due rather to bronchial nerve irritation—in view of the selective affinity for nervous tissue by the active bacilli or toxins of this disease—or to congestion of the mucous membrane, with scanty, tough exudation, if any at all.

Marked dyspnea was a feature in several cases without, however, any symptomatic or physical evidences of cardiac, pulmonary or renal complications to account for it; and hence the inference that it was purely nervous in origin is probably a fairly true one.

Bronchopneumonitis was associated with influenza in 5 cases, having developed within six or seven days after the first symptom of the "grip" attack. The only physical signs of diagnostic value were those elicited by auscultation; especially in children were palpation and percussion of no service, because of the thin, elastic chest-walls and normally exaggerated resonance as compared with adults, so that any relative dulness that the small area of catarrhal consolidation might produce was practically eclipsed by the surrounding resonance rendered all the deeper and louder in tone by the tympanitic quality resulting from the adjacent relaxed and congested lung tissue. One case, in a very old man of gouty habit, with a patch of consolidation about the size of a small orange below the left scapula, terminated in an abscess and final healing. Soft pleural friction sounds were heard over the area. Thick greenish-yellow pus was expectorated freely for two weeks.

Dry pleuritis over small areas in the postero-axillary region was associated with 5 cases of influenza. In 4 cases of pulmonary tuberculosis, the dry pleuritis over the seats of consolidation was distinctly aggravated, as regards pain, cough and pleural crepitation, during superadded attacks of la grippe.

Gastrointestinal System.—Anorexia was common in most cases, but in 4 instances the depression of function was so extreme as to be really quite distressing for two or three weeks. The tongue was heavily coated and flabby, as in cases of chronic gastric catarrh, and while nausea and vomiting were absent, the aversion to all food of even the most delicate and appetizing preparations and service was so extreme as to necessitate rectal feeding for a while. In 3 cases—all women—the attack of influenza produced such nervous irritability of the gullet and stomach that the taking of liquid, soft or solid food gave rise to immediate painful oppression and efforts at eructation or regurgitation back of the precordial and epigastric regions, due most likely to cardio-spasm and pyloro-spasm. Flatulence and sluggishness of the bowels were present in a few cases otherwise normal in function. In 2 instances deficiency of liver action was pronounced, as shown in pasty, clay-colored stools, although jaundice was not evident.

Cardiovascular System.—In 3 severe or fulminant cases, two of which were in children, acute dilatation of the heart[3] was demonstrable by percussion, with diffuse, tumultuous ventricular impulse, and soft, short, systolic, blowing murmurs of relative insufficiency at the auriculo-ventricular orifices. These physical signs disappeared completely in convalescence. Tachycardia, with a pulse-rate of 142, though not much out of ratio with the temperature, namely, 105 F., occurred in a woman of 74 years of age. Bradycardia, however, was a remarkably frequent accompaniment of influenza recently during the convalescent period. This was especially noted in 13 cases, all adults with the exception of a girl of 11 years, who had a very mild attack; after defervescence, which occurred the third day, her pulse-rate varied between 56 and 65 for several days. In the other instances, abnormally infrequent pulse-rates varying between 44 and 60, and lasting from three to seven days was the usual occurrence. Nervous depression and subnormal temperature were often associated, as observed also by Byrne.[4] From confirmatory conversations with a number of practitioners it would seem that bradycardia during convalescence has been a marked feature in recent cases of influenza. Painful, excessive throbbing of the abdominal aorta was a prominent symptom in one young woman of hysterical tendency.

Vasomotor disturbance, in the form of greatly exaggerated and depressing flushes, was a feature throughout the course of the attack in three women passing through the climacteric. The pulse was peculiarly irregular as to rhythm and volume, along with occasional intermittency and persistent compressibility in 7 cases convalescing from "grip."

Influenzal Nephritis.—There were 2 cases of acute nephritis, from the causation of which everything could be excluded except influenza. Both patients were males: one aged 38, the other 18 years—seen with Dr. T. V. Crandall. The former had had a chancre, and had been a heavy drinker of alcoholics. The onset in both cases was sudden and characterized by the general pains and febrile disturbances so common, followed, in a few days, by a puffiness of beginning dropsy. Albuminuria was copious, one-third by volume in the older man, and a trifle over one-half in the other; the tube-casts were more abundant in the urine of the younger man, and were covered with renal cells and leucocytes, but later became granular. The older—syphilitic—patient died

in uremic delirium; the younger had extreme anasarca, but is now on a fair way to recovery, with free urine of 1018 sp. gr., only an occasional cast and, as yet, no distinct cardiovascular changes.

Herpes labialis was observed in 30 per cent. of the cases; but no skin eruptions similar to scarlatina or measles, as reported by Herman,[5] were witnessed by me.

Complications.—There were 2 cases of influenza which, during the decline of the fever, but before the normal was reached, were complicated with lobar pneumonitis, one in the right, the other in the left lower lobes, with pronounced pleuritis at the same time. Both cases ended in pulmonary abscesses. One patient was a boilermaker, recovering in three weeks; the other was a colored sexton with a tubercular family history, and is now—June 4—in his fourth week of typhoid fever with the abscess cavity gravely retarding his chances of recovery.

Nephritis as a complication occurred in one case, a young schoolmistress, while suffering from a recurrent and fatal attack of "grip" during the second week of April. Her first attack, from which she recovered fairly well, lasted throughout the last week in January and the first two weeks in February, and was complicated also with extensive right-sided fibrinous pleuritis. It should be stated, too, that she had had chronic rheumatic endocarditis with mitral insufficiency and cardiac hypertrophy for twelve years.

Peripheral neuritis complicated 6 cases; in 2 the shoulder was affected. There were occasional burning pains, increased on motion of the deltoid and triceps, felt in those muscles, and passed along the course of the circumflex nerve, and of the musculospiral nerve at the insertion of the deltoid tendon, but not below the elbow. In 2 cases the neuritis was limited to the antero-external surface of the thigh—anterior crural nerve—and in two others, to the lower part of the leg, coursing especially behind, one the external, the other the internal malleolus, and over the instep, apparently quite superficial. These neurites developed usually during the beginning of the subsidence of the most acute symptoms and lasted from three weeks to two months. Paresthesias and slight paresis were noted, but no palsies.

Upon other diseased conditions the complicating effect of influenza was always varied, sometimes interesting and seldom absolutely negative. It was my experience, however, that whereas superadded influenza was fatal in but one instance—that one of chronic endocarditis previously referred to—the fatalities were more frequent in which influenza was itself complicated with some other affection. In a case of gastric ulcer in which blood was vomited copiously several times, the only effects were elevation of temperature, moderate bronchitis, and slight delirium for six days. In 2 cases of emphysema the chronic bronchitis was very much aggravated, the sputum became purulent and viscid, and the cough distressingly hard and weakening to the body. Cardiac dilatation and dyspnea were threatening in one case. Four cases of dry tubercular pleuritis were marked by pain, cough and increased friction murmur. An aged Jewess, with kyphoscolitic chest, chronic adhesive pleuritis and chronic bronchitis with emphysema, suffered great intensification of cough and dyspnea; the bronchitis became purulent, and fever and marked prostration ensued. In 2 cases subject to asthmatic attacks for years, the effect of influenza was to develop these attacks with intensity, and in both cases to give rise to purulent bronchitis. One of the patients had had hay asthma, coming on late in August, for many years, never at any other time, but said he suffered the same during his "grip" attack. Three cases of chronic valvular endocarditis affected with la grippe showed some cardiac arrhythmia and dyspnea. A walking case of pernicious anemia manifested only irritative dry tracheobronchial cough and increased weakness and dyspnea, and recovered nicely within ten days. In a case of large uterine myofibroma there were several attacks of fainting and increased uterine pains and a hemorrhage. The pains and after-depression in two cases of dysmenorrhea were considerably increased during the influenzal attacks. A woman of 56 years, of lithemic habit, who had been under treatment for neurasthenia for three months, was seized with an attack of influenza in the middle of April, while convalescing, and suffered great physical prostration and considerable cardiac irregularity for two weeks.

I hesitate to do more than mention that two cases of tertian intermittent malarial fever came under my care during the height of the "grip" epidemic; for, although no estivo-autumnal parasites were found in the blood of either patient—only the tertian hyalin and pigmented forms—I know of no data which would justify the claim that influenza is a predisposing cause of malarial attacks, even when so exceptionally prevalent during a season characterized by the recurrence of plasmodial activity in persons having had one series of paroxysms, as occurred in both of these cases last autumn; still it may not be altogether a hypothetic blunder to assert the possibility, at least, of such an etiologic relationship.

Recurrences.—There were four persons in whom second attacks of influenza were experienced after complete recovery from first attacks—hence, not relapses—after intervals varying from three to six weeks. Two were primary cases of pulmonary tuberculosis, one was a case of chronic valvular endocarditis—mitral—and one a woman at the menopause.

Sequels.—The following were observed: Unilateral sweating of the right side of the face and neck only, in a man aged 42; this symptom was noticed first two weeks after convalescence, lasted six weeks and disappeared unassisted as suddenly as it came on. Phlyctenular keratitis occurred two weeks after an attack of influenza in a negro boy 3 years of age, with a moderate degree of rickets. Erysipelas of the face and neck followed one week after a "grip" attack in a middle-aged woman, and terminated in an egg-sized abscess at the base of the left posterior anatomical triangle of the neck—inner portion of supraclavicular fossa—with recovery after incision and drainage. Melancholic depression lasting nearly two months followed a severe seizure in a woman aged 52, in the climacteric. Total deafness resulted in a girl of 3 years, who had severe head pains and delirium for one week. Paraparesis lasting several weeks was present also, but cleared up completely. Neuritis in the left shoulder in 1 case; and marked physical prostration and lack of ambition to resume any work whatsoever for some time after convalescence was established, were common to many patients.

Discrimination from other Affections.—It is not my purpose to enter into any details concerning the diagnosis or differentiation of influenza from other diseases. But closely woven with the warp threads of the clinical features previously outlined are the woof threads of diagnosis shuttled to and fro often in the judgment until the morbid design is complete, true, well-defined, substantial and therapeutically suggestive. So that, it may suffice to mention merely those affections that, in my ex-

perience, entered into the question of diagnosis. Thus, the symptoms of onset and development not infrequently made it necessary to decide upon influenza by the exclusion of the following diseases, principally: Acute muscular rheumatism or myositis, follicular tonsillitis, measles—in children, prior to the skin eruption and in the absence of Koplik's spots—intermittent malarial fever, cerebrospinal meningitis and typhoid fever—in lingering febrile cases.

In conclusion, among certain reflections that may be expressed based upon a study of some of the clinical and epidemiologic characters of influenza recently prevalent, are the following:

1. The disease has a ferret-like selection for "weak spots"; for the defective strands in the systemic rope, and especially for nerve tissue. Huchard[6] believes that the frequent pulmonary congestions met with indicated lower arterial pressure due to paresis of the vagus and diminished elasticity of the pulmonary vesicles.

2. The prominence of suppurative complications. Reading the recent classical Wesley M. Carpenter Lecture, by Dr. F. A. Packard, on "Infection through the Tonsils," makes one alert to the probability of the tonsils being gateways for the entrance of pus staphylococci and streptococci, as well as the bacilli of Pfeiffer. Congestive redness of the fauces appearing a day or two before the attack has been testified to by a number of careful observers. Huchard refers to the seriousness of secondary infection induced even in mild or attenuated forms—of influenza—by lowering the resistance and exalting, seemingly, the virulence of the ordinarily harmless bacteria of the body. It may be well, as Cotton suggests, that the intractable cases of la grippe are due really more to a streptococcus or staphylococcus infection, similar to the various resulting suppurative complications in pneumonitis, tuberculosis, scarlatina, pertussis, diphtheria, tonsillitis, and so on.

3. The relation of seasonal and meteorologic conditions to the prevalence of influenza and certain complications, as pleuritis, pneumonitis, neuritis and tonsillitis: The height of the severity of the "grip" epidemic was unusually late in coming this year—1899-1900—last year having been more of a normal seasonal "grip" year, the height lasting about seven weeks, beginning in the first week in December, 1898. As my notes show, there was a progressive increase in the number of cases of influenza from late in December, 1899, till April, 1900, the climax of the recent epidemic occurring during the six weeks from the middle of March to the end of April. My influenza cases numbered 5 in December, 12 in January, 22 in February, 35 in March, 47 in April, and 7 in May, 1900.

Now, as shown in a paper read by me in May, 1899, before the American Climatological Association,[7] influenzal outbursts are preceded by relatively warm, moist, and calm weather, but prevail with the onset of cold, clear, dry and windy weather, when the meteorologic data show an abnormal increase of the barometric pressure, lower temperature, abnormal temperature ranges and diminished equability, lower percentage of relative humidity, and increased prevalence of north and northwest winds. These observations I was able to confirm during the recent epidemic in connection with practically all of my case groups.

The meteorologic conditions favorable to the epidemicity of influenza prevailed at a time when the respiratory complications noted are usually favored, also, as independent affections, that is, after a remarkably warm and mild breeding December we had a remarkably late and cold spring, a season when the imprudent and impatient expose themselves too much and clothe themselves too little; insistently and recklessly making a fetich of a date or a festival to change their attire instead of sensibly adapting themselves to the axiom that they can not change the weather—hence the anginas, pleurites, pneumonites and neurites.

BIBLIOGRAPHY.

1. Archiv für klin. Chirurgie, Band lix, H. 3.
2. British Med. Jour., March 3, 1900.
3. Forchheimer: Festschrift in Honor of A. Jacobi, May 6, 1900.
4. THE JOURNAL A. M. A., March 10, 1900.
5. New York Med. Jour., Feb. 17, 1900.
6. Bull. de l'Acad. de Méd., Feb. 27, 1900.
7. The Relation of Local Meteorologic Conditions to the Influenza Epidemic in Philadelphia, Winter of 1898-99. See Phila. Med. Jour., August. 19, 1899.

SURGICAL CIRCUMCISION.*

FERD. C. VALENTINE, M.D.

Professor of Genito-Urinary Diseases, New York School of Clinical Medicine; Genito-Urinary Surgeon, West Side German Dispensary; Genito-Urinary Consultant to the Metropolitan Hospital and Dispensary, to the United Hebrew Charities, Etc.

NEW YORK CITY.

It would be a work of supererogation to recite here the indications for removal of the prepuce; your specialty has made them an every-day occurrence through the whole gamut, from those immensely elongated foreskins with adhesions, concretions of urinary salts and smega, to the barely enlarged fold which causes no perceptible local disturbance and yet provokes most serious reflex conditions. I believe that my experience does not differ from that of other genito-urinary specialists, who are often called in by pediatrists or general practitioners to operate, and afterward learn that the removal of an almost normal foreskin was followed by cessation of enuresis, infantile convulsions, or glycosuria that had resisted other treatment.

How should circumcision be performed, and who should perform it? The preparation of the field of operation is naturally the same as that employed for any other surgical procedure, and the details and precision to be observed are necessarily the same.

Ordinary humanitarian sentiment prevents consideration of circumcision without anesthesia. It is perfectly true that millions of infants have been circumcised while entirely conscious, and no subsequent evil has befallen them; I do not believe, however, that any physician would rend a mother's heart by so torturing her babe. It is specious to hold that an infant's sensibilities are not sufficiently developed to permit it to perceive pain. If so, why does the infant cry when a maladjusted pin pricks it, or when its delicate skin is irritated by a badly folded or moistened diaper? Is it logical to assume that its shrieks of agony, when the foreskin is cut or torn off, are but reflex?

The choice between local or general anesthesia is necessarily governed by the age and condition of the patient. As a rule, general anesthesia should be employed in all children under the fifth year, provided no cardiac or pulmonary condition prohibits. General anesthesia too may be necessary in older children, whose mothers have striven to render them unfit for the battle of life by pampering them into milk-sops, or by convincing them that they are not born to suffer even the slightest inconvenience under any circumstances.

* Presented to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.