when he sat up in bed. The impulse and first sound of the heart were very feeble, and the face was pale and somewhat sallow.

Digitalis in small doses was ordered, and ammonia and ether as stimulants. The pulse became very slow (below 40) and irregular, and continued so after the withdrawal of the digitalis. Liqueur arsenicalis was then ordered instead, and gradually the pulse rose in frequency and became regular. His colour became much better, and the attacks of giddiness quite passed off. He continued to take the arsenic for some time, and, on May 28th, this note was taken:—"Cardiac impulse not strong but fair. First cardiac sound somewhat feeble at the apex; almost inaudible in the aortic area. Pulse 76 to 80. Looks and feels well."

I have not yet had an opportunity of testing the power of the remedy in other cases of fatty heart, but shall not fail to do so when the opportunity occurs. I am aware that late experiments tend to show that fatty degeneration of the muscular tissue of the heart is one of the results of feeding animals with arsenic; but this is no reason why the drug, administered in small doses, should not be beneficial in cases of the disease in question. We cannot safely infer from the effects of large doses of drugs what will be the result of the administration of small ones. Of some remedies, we know that the effects of large and small doses are not only dissimilar, but opposed: witness the vomiting induced by large doses of ipecacuanha, and the speedy relief of some forms of vomiting by small ones. The very drug we are considering, as we know, causes vomiting in large toxic doses, while in minute doses it is the remedy *par excellence* for at least one form of vomiting—the vomiting of drunkenness.

REMARKS ON A DISEASE KNOWN BY THE NAMES OF "FALSE DIPHTHERIA", "SPREADING QUINSY", AND "CYNANCHE PHARYNGEA".*

By CORNELIUS B. FOX, M.D.,
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It is probable that few medical men in this country have been so circumstanced as to have had greater opportunities than myself for becoming intimately acquainted with *true* diphtheria. During the severe epidemic of 1859, an enormous number of cases came under my notice; and, even now, I am Medical Officer of Health in one of the Eastern Counties which, the Registrar-General informs us, is more afflicted with this disease than any other group of counties in England. It is unnecessary for me to detail all the symptoms of true diphtheria. The characteristic signs which distinguish it from throat-affections that resemble it are:

1. The production of a tough leathery false membrane (*δ.φ.θ.ε.ρ.α*, a prepared hide);
2. The presence of great depression of the vital powers;
3. The presence of albumen in the urine at an early stage;
4. The subsequent occurrence, in a certain percentage of cases, of some form of paralysis.

My surprise was great, in October and November 1875, in encountering a disease, which was reported to me by the Union medical officer as quinsy, that spread amongst children. Knowing, of course, like every other medical man, that quinsy is not a communicable malady, although it may affect several members of the same family at the same time, who have all been similarly exposed to the same influences, or who may all have a family tendency to throat-complaints, I made a thorough investigation into the matter, and described the affection in my Annual Report for 1875. The disease has since frequently presented itself to me in small local outbreaks. The principal facts brought out in my study of the disease have been these.

1. The disease consists essentially in an inflammation of the tonsils, which extends more or less into the pharynx, and sometimes to the neighbouring submaxillary and other cervical glands.
2. Although yellowish spots are sometimes seen on the tonsils, from an accumulation of mucus in the follicles of these glands, no ash-grey tough leathery membrane (characteristic of true diphtheria) is ever seen during the course of the disease.
3. The individuals affected present an anæmic appearance.
4. The disease is communicated from one to another generally through the medium of schools, gleaning, etc.

* Read in the Section of Public Medicine at the Annual Meeting of the British Medical Association in Bath, August 1878.

5. Unlike diphtheria, it is but seldom fatal,* unless those who suffer from it have been long exposed to most unwholesome conditions.

6. It is never followed by paralysis of sensation or motion, as diphtheria often is.

7. It is not accompanied by albuminuria.

8. The pulse is full, as is noticed in cases of acute quinsy; whereas in true diphtheria it is small and feeble, indicating great prostration.

9. It presents characters dissimilar from those exhibited by cases of scarlet fever, without the rash, from which it does not confer an immunity. I have seen twenty children in one parish suffering from this disease, not one of whom displayed the slightest skin-eruption. If the scarlatinal poison had had any connection with the production of this affection, it is but reasonable to conclude that at least one or two cases would have shown some evidence of it on the skin.

10. It may prevail in a district where no true diphtheria is known.

11. The average duration of the disease is about ten days.

12. It is essentially a filth-disease, being always associated with some organic impurity of air or organic impurity of water. Overcrowding, saturation of soil around dwellings with slop-water, and employment of pond-water for drinking purposes, are the most common insanitary conditions found in connection with infected houses.

The outbreak before referred to, in Oct. and Nov. 1875, occurred in a parish situated on the London clay, which, according to the statement of the Union medical officer, seemed to be annually invaded by this disease after harvest. What was there peculiar to this parish at that particular part of the year, whereby it differed from neighbouring parishes that did not suffer? The same, more or less, offensive privies and ditches exist in all; but, whilst the neighbouring parishes are furnished with artesian wells and springs, this particular parish is supplied with drinking water by a stream, polluted at various parts of its course by soap-suds and drainage of farm-yards. All the well-waters are brackish, and are only used for cleansing purposes. At harvest-time, this stream is much reduced in size, and presents the appearance of a series of very dirty pools. The water is then so full of insects and dirt that the cottagers have to strain it. The men drink beer, the women boiled water in the shape of tea, so that the children are the only drinkers of water in its natural condition. Very little milk is ever consumed, as it is found to be too expensive.

Mr. Francis Vacher, whom we are fortunate enough to have as the Secretary of the Public Medicine Section, described (*Public Health*, March 2nd, 1876) the outbreak of a disease (which Dr. Main regarded as identical with the cynanche pharyngea of Cullen) at Lower Bebington, in Cheshire. It occurred principally amongst adults, and only in two or three cases had a fatal termination. The only unsanitary condition peculiar to the district in which it occurred was an impure public supply of water, and it affected ladies who drank tea, rather than gentlemen who consumed beer and wine. It seemed to be confined to the area to which this impure water was restricted.

It may be urged that the affection respecting which I am making these remarks may be a mild form of diphtheria or erysipelas of the throat. Dr. Ringer considers that there are two kinds of diphtheria, a febrile and a non-febrile form. Dr. Balthazar Foster, whilst recognising these two kinds, thinks that the non-febrile should not be regarded as diphtheria at all, and states that it is never succeeded by paralysis.

That mild cases of true diphtheria may occur is unquestionable. Dr. Blaxall related one to me in which the patch of false leathery membrane was so small that it might easily have been overlooked. That it was true diphtheria was undoubted, for it was followed by paralysis of the palatine muscles. Dr. Russell Reynolds has referred to cases where the throat-affection has altogether escaped observation.

Dr. Bernard O'Connor, in paper in the *Lancet* (April 27th and May 4th, 1878), has recently brought under the notice of the profession the disease that I have been describing, which he names "false diphtheria". He refers to nineteen cases, the average duration of which was about five days; and has formed the opinion that it mostly occurs in damp, close, and sultry weather. Air-impurity has doubtless some connection with this disease; whether etiological or not, it is impossible to say positively. I have met with it in a row of houses over which sewage polluted air was frequently streaming from a badly managed sewage-farm, the only highly offensive one that I have ever encountered. I have seen it in a very damp farm-house almost surrounded by a filthy farm-yard.

Dr. Thorne Thorne has noticed a general predisposition to *non-infectious* inflammatory sore-throats in a district before the outbreak in some part of it of genuine diphtheria. He believes in the production,

* Cases of true diphtheria have come under my notice which were of so malignant a character as to destroy life in twenty-four hours after the commencement of the illness.

by means of a process of evolution, of that which gives to an already existing organism that property by which it becomes infective. I have no reason for suspecting that the *infectious* inflammatory sore-throat of which I write ever leads up to true diphtheria. As to the suggestion that this throat-affection may possibly be of an erysipelatous character, I have not seen in any case erysipelas in any other part of the body of an affected person. I remember that in one family living in a most healthy locality, but drinking dirty water, the mother suffered from erysipelas of the scalp, and the father and several children exhibited this throat-affection. I cannot regard this affection, then, as of an erysipelatous character, although, adopting Dr. Thorne Thorne's theory, it might possibly derive its origin from that blood-disease and become infective. The tonsils are the primary seat of the local affection. The only points of difference between it and quinsy are, that it is communicable—that it is accompanied by a certain amount of anæmia and depression, and that the mortality from it is probably slightly greater. Mr. Arthur Clarke, a medical man of Stock, Essex, who was the first to direct my attention to the disease, calls it "spreading quinsy", and I think it could scarcely be better designated.

Sir John Rose Cormack suggests a very small blister on the arm or elsewhere as a sure test for distinguishing diphtheria from what he calls "simple membranous sore-throat". If the case be diphtheria, the blistered surface will become covered with a diphtheritic pellicle; if it be not diphtheria, no false membrane will appear. The public are too prone to speak of every throat-affection by the name of diphtheria; and I regret to find that many practising medical men, more especially those in the rural districts, are less particular than they should be in the diagnosis and nomenclature of throat-affections. As the disease does not often destroy life, the disinclination on the part of the public to submit to such an interference with individual liberty as will prevent its extension forms a difficulty in successfully dealing with it, which is almost insuperable in the present unenlightened state of opinion in the rural districts.

FRACTURE OF THE CLAVICLE, FOLLOWED BY MYELITIS, PARALYSIS, AND DEATH.

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FRACTURE of the clavicle from muscular action, and that in its turn followed by inflammation of the spinal cord, paralysis, and death, is of sufficient interest and rarity to the medical profession to induce me to publish the following case in the *BRITISH MEDICAL JOURNAL*.

Miss H., aged 49, single, was in fair health on July 17th; on which day she was carrying a stoup (kind of pail) of water up a flight of stairs. She had only lifted the stoup and ascended one or two steps, when something gave a loud crack and her arm became powerless. On visiting her immediately after the accident, I found that she had sustained a fracture of the left collar-bone, which was broken obliquely about its centre, giving rise to considerable displacement and swelling over the part. The fracture was very readily reduced, and the fragments were retained in position by suitable appliances. The elbow was fixed to the side, and the arm brought well upwards across the chest to the opposite shoulder, and retained there by a sling and other breast-sheet. The patient now expressed herself as feeling quite easy. During the next few days, she complained of pains in the left hand, both shoulders, and neck, which I attributed to rheumatism. Her pulse was normal; there was no heat of skin, at least not of any moment; her appetite was unimpaired; she was restless at nights.

On July 23rd, six days after the injury, in order to relieve the pain, I readjusted the appliances; and at the time observed that the integuments of the left side, down to and including the left breast and up the left side of the neck, were much discoloured, and the superficial veins seemed enlarged and very apparent over the site of the fracture and for some distance around it. I could, however, find no preternatural pulsation or fluctuation. The pulse was felt at the wrist, and the left hand was comfortably warm. Suspecting that, perhaps, this might be a case of fracture from a preternatural brittleness of bone, in a person of rheumatic or carcinomatous diathesis, I inquired particularly as to my patient's former health, and found it very satisfactory. She had never had any serious illness, and had no family history of cancer, rheumatism, or paralysis.

From this time to the beginning of the fourth week, she went on satisfactorily, and, at the fourth week, I found the fracture had united. The bandages, with the exception of the sling, were removed, and the patient went to Edinburgh and Portobello for change of air. She expressed herself as "quite able for the journey", although she was weak

in general health and anæmic. The swelling over the site of the fracture was becoming less, and the yellow discoloration was passing away. During the first week or two after removal, she felt that the change of air was doing her good, and she walked out for about an hour each day.

On August 31st, she journeyed by tramway-car to the seaside, a distance of three miles, where she took a little exercise on the shore, and returned in the same manner. On the way home, she experienced great pain in the shoulders, and the same night she was very restless and sleepless. On the following day, she complained of the pain in the shoulders; feeling of tightness round the body; prickling through the body, especially in the fingers, which latter she described as feeling stiff and ironlike. Her face was flushed; the bowels were confined; the skin was perspiring. These symptoms continued with greater or less severity until September 6th, when both upper extremities became paralysed, although she still had the use of the lower part of the body. On September 7th, the paralysis extended to the lower extremities, and also to the neck, as evidenced by the inability to walk and stiffness of the neck. When she lay on her bed she could draw up the legs a little, but could not turn her head to either side—nor, indeed, was she able to turn herself upon her side. The skin was perspiring freely; her face was flushed; tactile sensibility was diminished, but the other special senses were quite normal; the extremities were warm; respiration was natural. She stated that she "felt as if she were going to fly at times".

On September 10th, the lower extremities and the bladder became quite powerless, and the catheter required to be used for the next two days to empty the bladder. On September 11th, the patient slept a good deal. She gradually grew worse towards the night; the breathing became laboured; and she died in a semiconscious state on September 12th.

In conclusion, I may mention that the very general nature of the observations as to the pulse, respiration, and temperature in this case is due to no neglect on my part; but is attributable to the fact of the patient having passed into the hands of other medical men after September 1st. These gentlemen gave her every care and the best of treatment, and doubtless observed many things which my imperfect opportunities prevented me from doing. Still, the few facts which I have mentioned should tend to confirm the diagnosis. In the absence of a *post mortem* examination, it may reasonably be conjectured that this was a case of inflammation of the lower cervical portion of the spinal cord, and probably due to the concussion at the time of the accident to the clavicle, and kept up by the irritation at the site of the fracture. At the same time, it was possibly a case of cancerous disease of the clavicle resulting in fracture, and that in turn causing extension of the same disease to the spinal column.

CLINICAL MEMORANDA.

EXCESSIVE SECRETION FROM THE NOSE.

THE case of watery fluid dropping from the nostril read by Sir James Paget at the last meeting of the Clinical Society reminds me of a case of disease of the fifth cranial nerve which was some years ago under my care, and which is published in the *Medico-Chirurgical Transactions* for 1869, vol. lii, page 28. In that case, there was, in addition to many other symptoms consequent upon the withdrawal of nervous force from the sphere of the trifacial, an incessant flow of fluid from both nostrils, which, on running down to the lips, made the skin very sore, and caused the moustache to fall out. In consequence of the incessant maceration which went on, the middle portion of the upper lip appeared quite white, like a scar from burning or from the application of sulphuric acid.

The same excessive secretion took place in the mouth, and the patient was, therefore, obliged to keep a pocket-handkerchief almost constantly applied to his nose and lips, in order to catch the stream of liquid. A handkerchief would become saturated with liquid in a short time. The lips appeared covered with froth, such as we see it in a patient who has just come out of an epileptic attack. Both corners of the mouth were very sore, being macerated by the constant flow. This liquid was slightly alkaline.

If we read Sir James Paget's case by the light of the one just alluded to, in which the cause of the flow was manifest, the pathology of it ceases to be so obscure as it was pronounced to be by our eminent *confrères*. The nasal mucous membrane receives its nervous supply chiefly from the ophthalmic branch of the trifacial nerve and from the sphenopalatine ganglion, the secretion from the mucous membrane being caused by the sympathetic and regulated and inhibited by the fibres of the fifth