

## DIPHTHERITIC CONJUNCTIVITIS.

A CASE TREATED BY INJECTIONS OF ANTITOXIN; RECOVERY WITHOUT DANGER TO THE EYE.

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On March 22, 1899, W. S., a farmer, 23 years of age, was repairing the floor of a barn when some of the dust flew into his left eye. The discomfort caused soon passed away, but on March 25 the eye became red and swollen. Classic symptoms of conjunctival inflammation rapidly developed and increased in severity, so that on March 28 he presented himself to Dr. W. E. Walsh of Morris, Ill. At that time the lids were much swollen, red and somewhat tender, with edema of the face extending to the angle of the lower jaw. The glands in the neck were somewhat enlarged. Pain was very slight. The palpebral conjunctiva showed a grayish membrane, adherent, on the removal of which the conjunctiva bled freely. There was considerable chemosis, but the cornea was clear; pulse 88, temperature 100.2 F.

Antitoxin, 2000 units, was injected into the back the following day, March 29. On March 30, A.M., the temperature was 99.4, pulse 90. The local symptoms seemed to improve during the day, but by the next morning they were much worse. Temperature was then 101.5, pulse 112.

I first saw the patient on the afternoon of March 31. The condition was as follows: The lids were enormously swollen, projecting far out from the face, the edema extending from above the brow over the side of the face into the left side of the neck. The glands in the neighborhood of the ear were very much swollen, as were those in the neck under the jaw. Both lids were of a dusky-red color, the skin being tense and very shiny. The redness was not sharply defined as in erysipelas, but faded gradually into the surrounding skin. At the inner canthus there were some slight excoriations. A dirty yellow serous discharge kept trickling from between the lids and ran down the cheek. On palpation the lids had the peculiar "board-like" or "brawny" feeling so characteristic of extravasation of fibrin into the tissues.

With considerable difficulty and with some pain, the lids were everted. The conjunctiva of the upper lid was dark red, much swollen and quite tense. Extending over the outer half of the tarsal surface was a dirty-gray membrane which could not be wiped off with a cotton swab, but was picked off with forceps in several places. Free hemorrhage followed. In places the lid tissue had been destroyed, and the gray membrane was adherent to the bottom of an ulcer. Above the tarsus near the fornix, was another patch of membrane much smaller, but equally adherent. On the lower lid the membrane covered nearly the whole tarsal surface, with the same characteristics as on the upper lid. The bulbar conjunctiva was so greatly swollen that the cornea could not be seen except by pushing aside the edematous tissue. When this was done the cornea was seen to be perfectly intact and transparent, without any signs of haze or ulcers.

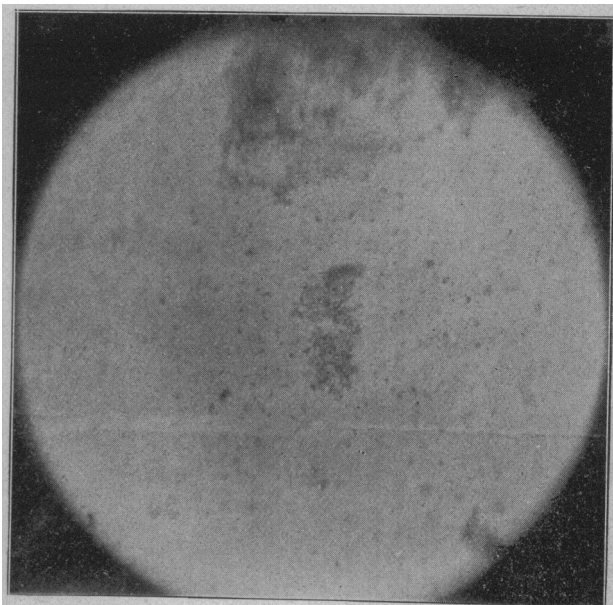
An examination of the discharge was made by Dr. Frank Walls, and the characteristic Klebs-Loeffler

bacillus found. The illustration is from a culture made the following day.

Realizing that what was to be done must be done quickly, 4000 units of antitoxin were injected into the patient's back at 4 P.M., March 31, and, on the morning of April 1, 2000 more. Reaction to the toxin locally did not begin until April 3, that is, two days later, but the swelling and the discharge continued about the same. It was noticed on April 3 that pieces of the membrane began to slough off, and the discharge to take on a very offensive odor. From this time on the symptoms slowly decreased, so that by April 12 the swelling had subsided and the discharge ceased, but there was still considerable redness. The constitutional symptoms disappeared within a few days after April 3.

During the whole course of the disease there were no complications in the nose and throat, nor were the constitutional symptoms very marked, the temperature never being above 101.5, the morning and evening being about the same.

The source of the infection in this case is obscure, but very interesting. There had been no diphtheria in the neighborhood for more than a year, as far as the people were concerned, but it seems that on the



floor the patient was repairing two hogs had suddenly died some months previously, and had lain there for some time. The chickens had access to this barn, and many of them died with enormously swollen throats. It was some of this refuse that struck the patient's eye.

Treatment was entirely confined to the injection of the antitoxin. Locally, no treatment, except cleansing of the lids, was given.

The great interest in the case is the action of the antitoxin. For forty-eight hours following the last injection no improvement in the local symptoms was noticed; in fact, the swelling of the face extended more into the neck, but the spread of the membrane ceased. After forty-eight hours the throwing off of the membrane was first noticed and the dissolution of the deposit in the lids and the subsidence of the swelling began at the same time and went slowly on. In throat cases in which the antitoxin is not injected until the sixth or seventh day, the resolution is very similar to that taking place in this eye.

An unusual feature of this case is that there was no

diphtheria in the nose or throat. Most cases of conjunctival diphtheria accompany diphtheria of the nose or throat.

While the bacteriologic examination is of the greatest importance, the diagnosis can not be made from the finding of the bacillus alone. The xerosis bacillus, which is probably present in many normal conjunctivæ, can not be distinguished from the Klebs-Loeffler bacillus by the microscope nor by staining methods. The only differential diagnosis between the two seems to be the physiologic test of the injection of a guinea-pig, the reaction being entirely different from the two bacilli. In this particular case the finding of the bacillus with the typic clinic picture presented seems to leave no doubt of the diagnosis. Were there any doubt, the reaction to the antitoxin would dispel it.

While diphtheritic conjunctivitis seems to be rather common in Europe, it is an exceedingly rare disease in America. There have been a large number of cases reported in Germany and France as successfully treated by antoxin injections, but as far as the writer knows, this is the first successful case in this country.

### MEDICAL TREATMENT OF INTESTINAL OBSTRUCTION.\*

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Under the term "Intestinal Obstruction," or ileus, *passio iliaca*, *miserere*, we understand a variety of pathologic conditions in which a more or less complete interruption of the passage of the intestinal contents is the most prominent symptom. Whatever may be the cause of the obstruction, mechanic or dynamic, or a combination of the two; strangulation, volvulus, intussusception, obstruction by tumors or foreign bodies within the bowel or external to it, fecal accumulation or paralysis of the bowel, the physician is confronted with a certain set of symptoms invariably present in and common to all of the mentioned etiologic factors, namely: Sudden onset, pain, constipation, vomiting, abdominal distension and diminished quantity of urine. The general diagnosis of intestinal obstruction is easily made, but the differential diagnosis is very difficult, and in some cases, strangulation, for instance, almost impossible during life.

When we bear in mind that the initial symptoms of appendicitis are almost identic with those of intestinal obstruction during the first three days, it is easy to understand in what a predicament a physician finds himself in facing such cases. The heaviest burden for a physician to carry is an undiagnosed case. Fortunately 80 per cent. of intestinal obstruction and 90 per cent. of appendicitis recover without operative interference, and one is justified in saying, concerning the treatment of intestinal obstruction, what Ewald said concerning appendicitis: that "it would smack of insanity to subject every case to the uncertainties of an operation."

In order to institute rational therapeutic measures we must first consider whence the danger threatens most. Aside from the profound nervous derangement and the direct compression of the bowel, the greatest

danger lurks in that part of the bowel which lies above the constricted portion wherein the circulation is either interfered with or entirely cut off, causing paralysis or gangrene of the bowel or perforative peritonitis. But the constricted part, after all, would not be in such a "bad fix" if it were not for the extreme meteorism which fills up and immobilizes every part of the viscus. As long as this tension continues there can be no hope of freeing the constriction or obstruction.

The *rationale* of our treatment must therefore be: 1, to lessen the weight and downward pressure of the bowel above the constricted part, and, 2, to lessen the intra-abdominal tension; the former will prevent as much and as long as possible the interference with the circulation, and the latter will create favorable conditions under which the bowel can resume its mechanic functions. To effect the above conditions, the following measures should be adopted:

There should be absolute abstinence from food, for it is the height of idiocy and downright criminality to give any food whatsoever under the pretext of keeping up the patient's strength. Vomiting is nature's therapeutic agent, and whenever this agent fulfils its duty, no man dares interfere. Every bite of solid food, and every swallow of fluid drink is but an insult added to an injury. Thirst, which is one of the invariable accompanying symptoms, can be quenched by sucking small pellets of ice, the patient having been told to spit out the accumulated fluid. The thirst may also be lessened by wiping the patient's mouth with wet cloths dipped in ice-cold water.

Permit me at this juncture to make a diversion. This absolute abstinence from food is applicable not alone in obstruction of the bowels but in all acute diseases during the first few days. Most of the acute diseases are ushered in with gastro-intestinal disorders, and anorexia is always present. Where is the logic in stuffing the patient with "bland and easily digestible food" as our text-books say, at a time when the digestive, absorptive and mechanic functions are completely upset? I fully believe that all the acute diseases would run a more favorable course had the physicians adopted absolute "abstinence diet" during the first three and even five days. I have adopted this "blandest" of all diets in all my acute cases during the last three years, and have had no occasion to regret it; in fact, I can trace the good results in many cases directly to absolute abstinence.

When the vomiting sets in early and is excessive, physiologic salt solution may be introduced into the rectum. In case the duration of the disease is prolonged, nutrient enemata should be administered.

Not only must we keep "hands off" from interfering with nature, but it is our duty to help nature. In all cases of suspected obstruction of the bowel, the stomach should be washed out. By lavage we relieve the upper portion of the bowel from the pressure and weight exerted by the contents of the stomach. Moreover, having relieved the pressure, the bowel as a rule empties its contents into the stomach, and thus lessens still more the general tension, without which condition, as we said before, no relief is possible. Recoveries due solely to lavage have been reported, and it is admitted by all that it affords, in all cases, immediate and great relief from the annoying nausea, eructation, vomiting and distension.

High rectal injections should be given. The main object is to remove the contents of the bowel below the

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