XXXV.

A REPORT OF TWO SEVERE CASES OF ULCEROMEMBRANOUS ANGINA.*

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There occurred recently in my service two unusual and severe cases of ulceromembranous angina, which were of interest not only because of their severity, but also because of the widely differing clinical forms which they assumed. The contrast of these two cases, which I was fortunate to be able to study simultaneously, was so marked—considering that they both represented the same disease, with presumably identical etiologic factors—that I feel that a brief report may be of interest to you. Moreover, a rather diligent search through the literature has shown a marked dearth in the number of serious and fatal cases reported, and has further revealed the existence of debatable points in etiology and treatment. It is, therefore, that I present these two cases in the hope of provoking a general discussion and a recital of personal experiences.

Case 1.—L. S., male, aged forty-eight years, a peddler, was admitted to my service on June 4th. He gave a meager history, which indicated that five weeks previously he had suffered with a peritonsillar abscess which when opened had discharged a large quantity of pus. Some time after admission he was able to tell us that following this evacuation the symptoms continued without remission, though there was no further formation of pus, and his condition grew more serious day by day. He presented himself at the hospital in a pitiful condition, unable to swallow or to open his mouth beyond a one-half inch separation of the incisors. He was weak and emaciated, having lost approximately twenty-five pounds since the onset of his illness.

General physical examination negative. Examination of the

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mouth revealed an area of deep necrosis on the right side of the soft palate, oval in outline, extending from and involving the tip of the upper pole of the tonsil, anteriorly to the hard palate, and mesially to the midline. The area involved was composed of a greenish gray, foul-smelling slough, which was easily removed with very little bleeding, and exposed an ulcer one to one and one-fourth inches in diameter. The base was not raised and only slightly injected. The edges were irregular and vertical, with a punched out appearance. The floor was incompletely formed; a green seminecrotic slough, with a perforation through the soft palate large enough to permit a fair view of the superior portion of the nasopharynx.

The clinical diagnosis, from the picture presented and the history obtainable on admission, was not easy—lying between carcinoma, tertiary syphilis and Vincent's angina. Direct smears from the depths of the ulcer showed pus, fibrin, pneumococci, a fusiform bacillus and spirillæ, with the latter organisms predominating.

The bacilli were five to ten microns long, with tapering ends and homogeneous body. The spirillæ averaged ten microns in length, stained deeply with anilin gentian violet stain. The spirilla contained an irregular number of spirals. Aerobic cultures negative, pneumococcus and staphylococcus being present. Blood findings were normal. Wassermann reaction, taken twice, was negative.

A piece of tissue from the floor of the ulcer was submitted to the laboratory for microscopic examination, and the following report was returned: "No malignancy evident. A suppurative process with marked necrosing tendency. Pus cells numerous, with a small round celled infiltration. Infective cellulitis with gangrene."

The patient was given a frequent gargle of peroxid, with daily deep injections of sodium cacodylate in gradually increasing quantities. It was necessary to administer opiates a number of times after admission, on account of his severe pain.

On the third day of his stay at the hospital the first signs of improvement were noted. This became gradually more pronounced, interrupted only by symptomatic remissions which were controlled by sedatives. There was no evidence of further spreading of the process, and by the fifth day there ap-

peared definite signs of healing in the ulcer. The edges assumed a more normal appearance, and removal of the reforming necrotic center revealed a rapidly healing base.

On the eleventh day the patient was free from pain and the cavity was markedly diminished in size, with cicatrizing edges. The course of the entire process was ten weeks, six of which were spent in the hospital. The patient was discharged in excellent condition. The soft palate was distorted by a firm scar, the center of which contained a narrow fistula, admitting a small silver probe, leading up into the posterior nares.

Case 2.—E. S., female, aged twenty-two years, was admitted to the hospital on June 21st. For one week previous she had complained of severe sore throat, with almost total dysphagia and the usual constitutional symptoms accompanying a severe throat infection. Cultures taken during this period were negative, and smears from the throat showed large numbers of both fusiform bacilli and spirillæ. She was given peroxid gargle without any alleviation of her symptoms, and because of her practically complete inability to take nourishment, she was placed under hospital care.

General examination was negative. On inspection the right tonsil was found covered with a greenish gray membrane which extended beyond the tonsil anteriorly and posteriorly, hanging in small islands on the pharyngeal wall. The membrane was adherent and tough, and rested on an angry red base. It was removed with difficulty. The uvula, soft palate and pharynx were edematous. A large piece of thickened membrane was removed and sent to the laboratory for examination. The report showed necrotic tissue with hyalin degeneration, considerable round celled infiltration and occasional patches of pharyngeal mucosa, surrounded by coagulated debris. Laryngeal examination revealed marked redness of the larynx, especially of the epiglottis, and no edema. Nasal examination negative. Schick reaction negative. Urinalysis negative. White blood cells, 24,000. Differential: Seventy-six per cent polynuclears, two eosinophiles, eighteen mononuclears. Temperature mean, 102°. A gargle of peroxid was ordered for frequent use, and also twice daily deep injections of sodium cacodylate in three-fourths grain doses.

There was no appreciable symptomatic improvement fol-

lowing the introduction of this treatment, though examination showed a less acute process on both tonsil and pharynx, and the membrane covered smaller areas than when first seen. The patient complained more bitterly of pain. She became hoarse, was unable to talk above a whisper, and no manner of coaxing or scolding would induce her to swallow more than a few drops of milk or ice water at long intervals. Deglutition caused severe attacks of coughing which were pitiful to witness. She complained of an intense substernal burning pain, lasting fifteen to twenty minutes after swallowing minute quantities of water. An attempted laryngeal examination on the second day showed the presence of patches of membrane and edema of the epiglottis. Examination of the cords was unreliable, because of strenuous objection by the patient.

The situation becoming more and more serious, an effort was made to stay the process by increasing the cacodylate dose to two grains, the intense dysphagia and substernal burning with the increasing signs of laryngeal involvement indicating an extension into the esophagus and larynx.

The urine was at all times scanty, and on the third day showed very positive albumin, hyalin and granular casts. Fluid intake less than eight ounces, practically all of which was water.

Late in the second hospital day the patient exhibited signs of collapse. The cause being attributed to lack of nourishment, and because she was unable to retain nutriment per rectum, five per cent glucose solution was administered intravenously. On the third day the picture remained unchanged, slight improvement noted in the pharyngeal lesions. The urine was scanty and test showed a heavy deposit of albumin. Signs of gradual collapse continued. The patient became irrational and refused to swallow any nourishment. The fourth day was marked by no change in the condition. Toward evening the patient suddenly had a severe retching spell, lasting nearly five minutes, at the end of which she vomited a piece of membrane about four and one-half inches long and one inch wide, thick, with straight smooth sides and irregular ends—evidently a large portion of a cast of the esophagus. Toward morning of the fifth day the patient coughed and suddenly became dyspneic and cyanotic. Emergency tracheotomy was about to

be performed when a piece of membrane was forcibly expelled, relieving the symptoms as suddenly as they had appeared. This specimen was three inches long and about half an inch wide—no doubt, a good portion of the tracheal and laryngeal membrane.

There was no appreciable alleviation of symptoms following these incidents. For four days following she had an average intake of five to seven ounces of fluids, and a total twenty-four hour excretion of eight to ten ounces. The pulse became irregular and slow, and examination showed a toxic myocarditis present. Mental symptoms became prominent; the patient satisfied herself that she was going to die, and it was impossible to obtain her cooperation in any therapeutic measure. She exhibited a taste perversion which was marked. Water caused her intense agony when swallowed, but she was certain that sarsaparilla "pop" would go down easily. We procured some, which she drank with apparently not much difficulty. The idea of impending death was so fixed that she prevailed on her people to take her home to die. Exitus occurred on the second day after leaving the hospital.

These cases, both clinically very malignant, present markedly differing types. The first was ulcerative and necrotic, a deep slowly extending destructive process, with symptoms relating only to movement of the affected parts. There were no systemic effects, not even an elevation in temperature, and the lesion responded readily to treatment. The second case was strikingly different. The process was primarily membranous, with only a slight tendency to superficial ulceration. The membrane spread rapidly—evidence of its migration in both the trachea and esophagus being given above. Symptomatically the case was pronounced toxic in features, fever varying from 99° to 103°, nephritis and myocarditis being complications.

What influence, working on the same etiologic factors, produces this widely differing clinical picture? It has been suggested that the course of the disease is modified by the relative numbers of spirillæ and fusiform bacilli present—that predominance of one type of organism or the other produces the varying clinical picture. Such a condition we were unable to prove in these two cases.

It may be suggested that the slow ulcerative type is a chronic

infection, whereas the membranous type is an acute or fulminating example of the same disease. I am inclined to hold the latter view, accounting for the ulcerative form as a low grade infection, due either to attenuated organisms or an immunizing protective effort of the body. Examination of the microscopic specimens in the first case certainly show such a condition—the lesion was well limited by a leucocytic wall.

The fulminating character of the second case may well be ascribed to infection with virulent organisms in a host physically unfit to offer resistance and combat the process. As to a comparison of the clinical course, little explanation is necessary. The first case produced no more systemic results than would a walled off abscess; the second patient showed systemic effect due to (1) the virulent infection, (2) absorption in the large area involved, and (3) consequent secondary infection.