

**RUPTURED ANEURYSM INTO THE MEDIASTINUM AND DEEP  
CERVICAL FASCIA WITH SYMPTOMS OF LUDWIG'S  
ANGINA. REPORT OF THREE CASES.**

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On Aug. 16, 1897, a spare muscular man of 58 years, consulted me for a distress in his throat which he had had for a number of weeks and which he described as a gripping of the deep structures of the neck. For a year and a half he had suffered pain in the back and in the abdomen, and for three months he had been unable to work, and had not dared to eat much, as eating seemed to increase his distress. He complained of a nervous feeling in his feet and legs, and of getting dizzy upon arising quickly and upon taking a long breath. Examination of the throat showed nothing abnormal until after exercise when there was a distinct spasm of the left arytenoid and cord. There was a distinct whirring sound synchronous with the systolic sound which was distinguished over the second intercostal space and also over the abdominal aorta. A diagnosis of probable aneurysm was made and the patient was instructed to lead a very quiet life. On Oct. 10, I was given a very hurried call to visit this patient. I found him braced up in bed and breathing very hard. The attack had begun about an hour before. There was a feeling of distress in the chest and a beginning fullness in neck which had rapidly become swollen. When I saw him the neck was much swollen from the ramus of the maxilla to the clavicle. The color of the skin was the dark red so frequently seen in phlegmon. The mouth and pharynx were intensely injected, as was the larynx. The left cord appeared fixed in advanced phonation. The neck had the brawny feel of septic cellulitis. The pulse was about 55 and the temperature was 96.8°. Had I not known that the patient had an aneurysm, even with the rapid onset and the lack of temperature and pulse usually associated with septic, I feel I would have been led, by the otherwise striking picture, to make a diagnosis of septic cellulitis (Ludwig's angina). As it was it seemed very probable that there had been rupture into the superior mediastinum, and that the blood had been forced into the cervical tissues. After about three hours the patient became much more comfortable. The left vocal cord was in the cadaveric position. The pulse was weak and 90. I then left the patient in charge of a nurse who reported that (except for the painful pressure of the

swollen neck) he had had a fairly comfortable night until about six o'clock in the morning, when a violent cough was followed by a profuse flow of blood from the mouth, and by almost immediate death. Permission for autopsy could not be obtained, yet I believe our diagnosis a very reasonable one.

On Feb. 21, 1899, I was called in consultation by Dr. F. E. Bundy and saw and recognized my second case of ruptured aneurysm into the mediastinum, which had dissected into the intra-fascial spaces of the neck and sub-maxillary area above, producing the signs and many of the symptoms of cervical plegmon, so generally called Ludwig's angina. The patient, a man in his early sixties, had been an excessive drinker of alcoholic beverages since his college days, until two years previously, when he had stopped drinking upon the advice of a physician, as he began having severe neuralgia pains in both legs and in the back. These pains continued with varying severity and there were spells of numbness in legs, lasting from a few minutes to several hours. For about a month before the onset of our present consideration, he had been feeling much relieved, and was much encouraged when, at about three o'clock in the afternoon, without warning, he experienced sharp pains in the neck and chest, soon followed by hoarseness, some dyspnea and swelling in the neck. These conditions increased and Dr. Bundy, who was called in immediately after onset, called Dr. Wm. Bullard and me in consultation. I saw the case in about twenty-five minutes after the beginning of the attack and found the man in much distress. The dyspnea was very marked. The neck had much the appearance of a marked goitre except the color of the skin was that common to inflammation. The pulse had spells of being very slow, 40 to 45 per minute. Then there would follow attacks of tachycardia, 150 to that which I was unable to count. The dyspnea varied much, but not coincidentally with the varying heart action. To the finger the neck had the same feel as in severe local cellulitis. The mouth, pharynx and epiglottis were intensely hyperemic. The arytenoids and ventricles of the larynx had an edematous appearance. The principal hindrance to breathing was found to be a spasm of the left recurrent laryngeal nerve. The left cord was, during much of the time, carried beyond the normal position of phonation. Percussion over the chest showed enlarged heart area dullness. The apex beat during the tachycardia, was in normal position. There was dullness to the left of the spine over the back. The heart sounds were normal and the auscultatory

sounds were those associated with laryngeal stenosis. I was of the opinion that we had to deal with a ruptured aneurysm or a ruptured abscess cavity within the mediastinum which had dissected by hemorrhage into the deep cervical fascia. Dr. Bullard who did not arrive until about an hour after my examination, and after the intense symptoms had subsided, was of the opinion that we were dealing with an acute thyroiditis with its syndrome of neurosis. At this time the spasm of the larynx had subsided and the heart action was more nearly within normal limits. The patient, fearing another attack, wished me to remain with him as he believed intubation might be necessary. At about nine o'clock while he was talking, and, except for the pressure in the neck, seemed fairly comfortable, he cried out sharply with pain, and was almost immediately in the same condition as I at first found him. This attack lasted about an hour and a half, when he became easier and remained so until 3:30 a. m., when another attack occurred which lasted until nearly five o'clock. Except for an increase in the laryngeal edema, the physical examination at this time was the same as the evening before. He remained comparatively easy, but extremely nervous, being able to converse with a very hoarse voice, and able to smoke cigarettes constantly until after eight o'clock, when the last attack occurred and he died in about twenty minutes. It was impossible to count the pulse for the last fifteen minutes of life. An autopsy found the collapsed walls of an aneurysm of the transverse aorta which had ruptured into the mediastinum and dissected into the tissue of the neck. Adhesion with the pericardium had prevented the flow of blood into that sack. There was erosion of the vertebra. The autopsy showed the cause of the two years' illness and the final symptoms and signs.

On Oct. 3, 1914, I was given a consultation slip at the Boston City Hospital to see a man who had been admitted on Dr. Jackson's service the previous day. The only history our service had was that two days previously the neck began to swell and was very painful. Examination showed a powerfully built man, 46 years of age, with the swelling of the neck of that intense brawny character found in very acute cellulitis. The subglossal tissue was very much swollen, the palate and uvula and all the pharyngeal mucous membrane were much swollen and there were several small areas of hemorrhage into the membrane. The epiglottis was like that of severe edema except the color was

darker. The larynx was congested. The temperature was 100.8, pulse 110. We made a diagnosis of probable Ludwig's angina. The following morning the patient was much more comfortable. The swelling was somewhat less and we did not disturb him to make more than a superficial examination. He remained moderately comfortable until early evening when he became suddenly worse and Dr. Place saw him in an emergency, and was of the opinion that the case was not an infection, as the temperature had dropped to about normal. The following morning I again examined the case, and at this time there were areas of ecchymosis of the skin and neck and upper chest as well as of the mucous membrane of mouth and throat. At this time we received the medical history and were able, with this and the existing signs, to make a fairly positive diagnosis of ruptured aneurysm into the mediastinal space and extension into the deep cervical fascia. Had we used due care and obtained the medical records before our first examination, we should have made a correct diagnosis at once. After remaining in the hospital six days, the patient demanded his discharge and went to his home, where, after another week, he died, and at the autopsy it was found that a rather large aneurysm had ruptured and dissected into the cervical tissues as we had presumed.

In conclusion, we find that all three of these cases, although they presented signs of infectious cervical cellulitis, had had symptoms suggestive of thoracic aneurysm, lasting for many months. The onset in all was more sudden than even the severe infections. They all began with severe, sharp, cutting pain with a feeling of much anxiety. The first two cases had no elevation of temperature. The third case had only slight elevation 100.8, and was followed by a subnormal temperature, 96, while the pulse was 120, and the respiration was 35. All these cases had a pulse rather above 100.

The prognosis must always be bad and the treatment can only be expected to alleviate distress and should be administered to that end. Incision into swollen areas, even though they fluctuate, would probably result seriously, and the practical lesson we may learn from these cases is to not forget the possibility of a similar condition when considering any case of severe cellulitis of the mouth, pharynx and neck, and not to incise for any supposed pus collection until we have reasonably eliminated this as an etiological factor.

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