



Call #:	HOM 0036
Title:	Dr. Albert S. Lyons on the History of Thoracic Surgery at The Mount Sinai Hospital
Date:	October 21, 1987
Copyright:	Icahn School of Medicine at Mount Sinai

The Arthur H. Aufses, Jr. MD Archives

This document is a transcript of an oral history interview from the collections of The Arthur H. Aufses, Jr. MD Archives. This material is provided to users in order to facilitate research and lessen wear on the original documents. It is made available solely for the personal use of individual researchers. Copies may not be transferred to another individual or organization, deposited at another institution, or reduplicated without prior written permission of the Aufses Archives. Provision of these archival materials in no way transfers either copyright or property right, nor does it constitute permission to publish in excess of "fair use" or to display materials.

For questions concerning this document, please contact the Aufses Archives:

The Arthur H. Aufses, Jr. MD Archives
Box 1102
One Gustave L. Levy Place
New York, NY 10029-6574
(212) 241-7239
msarchives@mssm.edu

HOM36

Dr. Albert S. Lyons on the History of Thoracic Surgery
At Mount Sinai Hospital
10/21/87

These are a few remarks on thoracic surgery at Mount Sinai in response to Professor Naef's request about some of the surgeons here. I am sure there is far more than he wants, yet there may be information in it he can use, although the summary is not even a summary, but just a few sketchy comments.

First, Howard Lilienthal. Some time I would judge about 1910, but none of the dates I give are precise, the first thoracic operation performed under endotracheal anesthesia and as far as I know it was the first in the world, was performed by Howard Lilienthal, performing a decortication. The person giving the anesthesia was Dr. Charles Elsberg, who later was a pioneer in neurosurgery, but at that time he was interested in anesthetic methods. I also believe, as far as I can discover both from Howard Lilienthal's textbook and other writings that I have been able to obtain, he was the first to perform a lobectomy for infective disease. Actually it was a sort of bronchiectasis with suppuration. He refers to that as one of the methods for treating bronchiectasis in his two-volume text on thoracic surgery. He also mentions that the mortality was very high, something like 47% I think he said, that it was at a stage when you didn't have anything else to offer and it was probably better than any of the other modalities.

Now this also brings up perhaps the even more fundamental contribution, which was the concept of the organization of the lung in broncho-pulmonary segments. The man whose idea that was has been for the most part forgotten by most people. His name was Harry Wessler. Dr. Harry Wessler had the idea from looking at lung abscesses, particularly what was called putrid lung abscess, that there were the segments that did not intercommunicate with each other and you could divide up the lungs in these anatomical, physiological ways. I know that he had the idea because I have spoken to numbers of people who were around at the time, although I knew Harry Wessler, and even interviewed him, that was many years later. However, he was not given to writing; he was mostly given to clinical practice and teaching and stimulating. He gave the idea to Dr. Amiel Glass, who was a young beginning surgeon at the time. (Dr. Glass later didn't go into thoracic surgery but actually into abdominal surgery.) But he, Dr. Glass then made the study including injected models of lungs from the autopsy table to prove that concept. He also involved Dr. Rudolph Kramer in the work. Dr. Kramer was an otolaryngologist who did bronchoscopies. Now, their paper is on the idea and it was the introduction.

When I interviewed Dr. Wessler he referred to Dr. Glass, never even referred to his own work on it because, in the first place his memory was not at its best at the time that I interviewed him; he was quite ill in the hospital. But also because it was characteristic of him, although he liked to take credit for things, when he stimulated

somebody else in an idea or when he set him going, he gave those persons full sway and considered it their work. The real credit should go to Harry Wessler as the originator of the concept, otherwise, nobody would have even worked on it.

This also has bearing on the surgical treatment of putrid lung abscess. These abscesses, as you know, were not uncommon, particularly after tonsillectomy and other upper respiratory procedures and sometimes even after other operations under anesthesia, where bits of the oral cavity or elsewhere were either inhaled or made their way into the broncho-pulmonary organ. These were desperate conditions and they were only treated as chronic disease. In fact, when I was a medical student, up at Columbia College of Physicians and Surgeons, the idea of treating them any other way had just been introduced and it was mentioned to us in a somewhat derogatory way. But usually, as you know, these were long-standing things and you waited until the parietal pleura had become adherent to the visceral pleura, otherwise you would get spillage and there would be either certain death or a high probability of death.

But it was Harry Wessler's idea, and then it was both echoed and agreed in by others such as Harold Neuhof and others of that group, that the abscesses were at the periphery and therefore that very early, the visceral pleura of the abscess and the parietal pleura were adherent in that area and you could drain it if only you knew where it was. And so Wessler and Neuhof and particularly Dr. Coleman Rabin worked out a means of identifying it, because by this time x-rays were being used. They would, by means of study of the x-rays, try to localize where the abscess might be and then place, inject in the skin over that area where they guessed it was, a mixture of lipiodol and methylene blue and then re-x-ray. The lipiodol in the various views of the chest would show where their guess was in relation to the abscess and then they were therefore able to tell where it was. The methylene blue was what you would see when you made the incision, so you knew where you were. If you found that the bolus of the lipiodol was a little removed from where you should be, then they would measure that. And then when you made your incision on the skin, you would do it in the distance from the methylene blue, or directly into the methylene blue. By my time, the methylene blue and lipiodol method was so precise that we used to make the incision right into the methylene blue. And then you would go right in to the inter-space, put a needle in and if you were in the abscess, suck out some and then a cutting edge groove director was slipped alongside the needle and then you were in the cavity, which was usually relatively small, at that time, so early, either unroof it or make a cross and then pack it and you had drained an abscess that had a high mortality before then. But it rose out of the concept, also, of the broncho-pulmonary segment.

Harold Neuhof played an important role in that method of surgery for that condition, working with the others. Harold Neuhof also, it might have been in 1940, I am not sure, tried together with Arthur Aufses, Sr., tried a transventricular pulmonary embolectomy. I do not really know how successful it was. I believe somebody told me that the patient had survived, but I can't offer that as a fact. At any rate, as far as I know it was either the first or one of the earliest.

I think you probably know about Dr. Touroff who operated on the first infected patent ductus arteriosus. But this was done at Beth Israel. Dr. Touroff was on the service here and that was where his main base of operation was, here on the Surgical Service of Mount Sinai. But that actual operation was done down at Beth Israel Hospital. It was a ligation, but a ligation and actual transection. The patient, who had developed positive blood cultures, and what we would call septicemia, and all stopped when that was performed. That, I believe was the first.

We also had somebody here by the name of [Sidney] Yankauer who had developed some of the techniques of endoscopy and the suction instrument that he devised is still used and called, all over, wherever I have been, the Yankauer Suction. It was used all over that I have seen, not just in the thoracic operations, but even more often in the abdomen and the neck. But, he was an otolaryngologist and his precise contributions, I am not sure of, as they relate to thoracic surgery. Except that I know that he was trying, and succeeded sometimes, I understand, but not as effectively as could be, to drain suppurative collections in the lung through the bronchoscope and to treat bronchiectasis by bronchoscopic aspirations. Since these were the early times of these, he may have been one of the first to do something, but he was certainly one of the pioneers, and was very innovative in devising tools for doing this.

John Garlock, whom you asked about, actually made a contribution which is not always recognized, and that was a muscle flap to close a broncho-pulmonary fistula. Now that may have been in the 20s, or late 1920s, or maybe early 30s, but I am not sure. And that was devised in a method of bringing a muscle flap down into the chest, and it was really, in a sense, just stuffing it into the open fistula. He was also, of course, one of the early workers on esophagectomy for carcinoma.

Of course, he was one of the early ones performing lower esophageal carcinoma operations. Since I was his, you can call it private assistant, although I was in private practice myself, shared offices with him and assisted him on the more difficult cases. I can say that we did a fair number, and he developed a technique. Whether he was the first or just one of the earliest, I can't say. As you know, Dick Sweet in Boston was also working in the same field, and priorities are something I can't say. But I do know that this technique that Garlock used was used by many others thereafter. They used to come to watch him and he used the instruments others had devised. For instance, there was a rib spreader that had been used by an Argentinean, Finochietto was his name, which he took up and then modified a bit and developed a technique of preserving the blood supply to the proximal end of the anastomosis of the esophagus to the stomach. We had to be very careful of those fragile blood vessels. He developed a way of preserving them. And we used various principles in placing the opening into the stomach so we were sure to be in an area which was well supplied with blood, because sometimes if you brought the stomach segment up a little high, the very tip might have compromised blood supply. That is why he buried those tips with numbers of layers to make sure if there were any necrosis that did develop it would be covered by the sero-muscular layer. But he may have been either the first or one of the first to have brought the esophagus up above the arch of the aorta in mid-esophageal carcinomas.

Now, he used a left sided thoracic approach. Always. While he did a few right sided approaches later because others had written about it, he always preferred the left. For a higher lesion he made a thoracic incision, for a lower lesion he made an abdominal-thoracic incision. The esophageal anastomosis above the arch was done therefore, with the left side up and the right side down on the operating table. I can't speak of in front of or behind, or sort of really lateral to the arch is where often the anastomosis was placed, although he tried to be above the arch of the aorta. Now this was all right for carcinomas that were just below the arch or above the arch, but the carcinomas at the level of the arch were rather difficult to free and yet not injure the arch. I never did one; he did. And he did a number and he used to make the dissection seemingly mostly blunt, except for cutting the adventitia and therefore some of it had to be almost blind, except you could pull the arch up a little, and the esophagus down.

I should imagine, as a cancer operation, it was probably better from the right, as I subsequently was part of, at other times in the later years. You can take out more tissue with it and so on. But, for the time when I watched Dick Sweet operate, I didn't notice that there was very much added tissue around the esophagus that came out from the right side rather than the left. Though, I think, in just the nature of the approach, it probably did remove more tissue.

The anastomoses were all two layer anastomoses, as all the anastomoses were we doing at that time in this institution, started by A.A. Berg, with the serosal layer posteriorly done first, this was not the esophagus, of course, I mean in those hollow organs that had a serosa, then the sero-muscular layer all that posterior and then, anteriorly again with a muscoso-seromuscular and then with a sero-muscular over that. But in the esophagus he would anchor the esophagus by a layer of interrupted sutures between the wall of the esophagus and the sero-muscular layer of the stomach before opening the stomach, after selecting the area. And this was placed rather precisely, and then at a distance from that layer that had already been designated as a good layer with good blood supply, he made a hole, you might say a circle, not even an ellipse, a circle that was excised and the blood supply controlled, and then the muscosa and sero-muscular layer to the wall of the esophagus was also made before opening the esophagus. I should have made clear that he anchored the esophagus to the stomach before opening it. It therefore, it was held up because it was used as a traction, with the lesion, wrapped in gauze and towel, held up so you could hold it with traction, and then it was transected after it was placed, then you could see what retraction occurred and so on. And then the anastomosis was made. And while there had been a few leaks, there were leaks, but not many.

And I think it is reported somewhere our experience was as shown. I can say that, since I was the one who collected the figures and the statistics and so on, I can testify that they are as accurate as I was able to obtain. The chest was drained by a tube under water. There was no suction used. I don't think anybody was using suction at that time, I'm not sure but that was our method. And then of course later, he brought the stomach up into

the neck, made anastomoses there, as others did. I am not sure what, chronologically, was his role, but it was certainly one of the earliest.

One of Dr. Garlock's contributions that it is difficult to measure, was his influence on others to use unhurried and yet unwasted movements in performing operations. Everything he did looked elegant and clean. He was considered a fast operator, but it was not the rapidity of his movements, though they were fast enough, it was the fact that each movement did something, and there was no wasted time.

One other person I want to mention is a contemporary, Paul Kirschner. He may have been a pioneer contributor to thymectomy for Myasthenia Gravis. He may have written the first paper on transcervical thymectomy for Myasthenia Gravis, and that might have been in 1967 or 1969 [1969 is correct]. It is curious, though, that Kirschner, who is still practicing and now, after much experience with the transcervical thymectomy, has gone to a trans-sternal approach. After many studies he has concluded that you can't get all of the thymus out through the neck and you can't see all its extensions. And so he now does the trans-sternal approach.