INTERVIEW

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Cardiothoracic surgery and lung cancer

Mark S Allen* speaks to Roshaine Gunawardana, Managing Commissioning Editor:

Dr Mark S Allen attended Allegheny College where he majored in chemistry and minored in mathematics. He then went to a 1-year graduate school to study chemistry at the State University of New York in Buffalo. He attended Hahnemann University Medical School in Philadelphia, graduating in 1982. He went to the Massachusetts General Hospital where he completed his general surgery residency, as well as his cardiothoracic residency, taking a year out to work in a

cardiac laboratory studying the effects of medications on myocardial function. In 1990, Dr Allen moved to Rochester, Minnesota to become a consultant at the Mayo Clinic in the Division of General Thoracic Surgery, where he has practiced thoracic surgery for the past 21 years. His practice includes all aspects of general thoracic surgery, including esophageal cancer, laparoscopic surgery, minimally invasive lung surgery, diaphragm, chest wall and mediastinal surgery. He is currently Professor of Surgery at the Mayo Clinic College of Medicine. Dr Allen's research interests are clinical in nature and are collaborative with the other members of the Division of General Thoracic Surgery. Dr Allen currently serves as President of The Society of Thoracic Surgeons and is Chair of the Board of the Joint Council on Thoracic Surgery Education. He is the former Examination Chair of the American Board of Thoracic Surgery.

Q What influenced you to go into cardiothoracic surgery?

I was going to be a family doctor when I went to medical school. For part of our first year pharmacology course, we went to the operating room to learn about the medications that anesthesia uses and I was able to see an operation for the first time. The patient was a pregnant woman who had an intra-abdominal anencephalic pregnancy. When the obstetrician opened the abdomen, the placenta detached from the bowel and the patient started to bleed profusely. In this emergency situation, a general surgeon was called to fix the problem. Dr Matsumoto, the chair of surgery, came in and saved her life. I knew at that moment I was going to be a surgeon. When I went to the Massachusetts General Hospital for residency, cardiothoracic surgery was where the action was and I was fortunate to be chosen to train there.

Q You have been a practicing thoracic surgeon for more than 20 years. What would you say has been the biggest change you have seen so far in your career?

The biggest change is the movement to minimally invasive surgery. Most of our operations done now are through small incisions with a television camera.

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Q You were the Principal Investigator of the ACOSOG Z0030 trial. Can you explain to our readers what you hoped to achieve from this study & what the main findings were?

The Z30 trial tried to see if there was a difference between taking out all the lymph nodes in the chest versus just sampling a few in patients with early-stage lung cancer. We found no difference.

Q One part of the 'Epidemiology & Genetics of Lung Cancer Research Program' at the Mayo Clinic is looking at curing cancer in the advanced stage. What are the major challenges associated with creating a cure for advanced-stage lung cancer?

We need to find a means of killing the cancer cells after they have escaped the local area. Dr Ping Yang and her team are collecting genetic material from patients and their family members to examine the frequency and types of genetic mutations that are present in lung cancer and in relatives of patients that do not have lung cancer. She has been able to develop a molecular theory of why some people get lung cancer and why some do not. With further investigation we might be able to develop a blood test to detect cancer before it becomes visible on a screening CT scan. We might also be able to predict those people at high risk for developing a lung cancer and screen them more frequently.

Q As a member of the Board of the Joint Council on Thoracic Surgery & an Examination Chair for the American Board of Thoracic Surgery, what developments do you think are necessary in educating new thoracic surgeons?

There has been an explosion of new information that thoracic surgeons need to know. We are very excited about the possibility of using on-line learning to facilitate the distribution of this knowledge to learners. It is quite a change and will take some time to develop this method of education. The field of simulation is also developing rapidly. We currently have a fairly high fidelity model of the beating heart that students can use to practice managing rare but lethal

problems that develop in cardiothoracic surgery. Using simulation as part of the residency educational program is now a requirement for all trainees.

Q With more literature & resources about lung cancer freely available, patients are much more educated about their condition & are given patient-specific treatment plans by their physician. In your experience, what are the patients' thoughts on the 'survival time' versus 'quality of life' debate?

Surprisingly, most patients do not ask much about quality of life, they just want the cancer out of them and want to live. One of the best things about the change to minimally invasive surgery is that the quality of life in the short term after an operation is better. Hopefully, this translates into a longer life as well.

Q Finally, do you have any closing remarks for our readers?

Cardiothoracic surgeons are a special bunch of doctors. We train for a long time (my first job came when I was 35 years old) and we work long hours (average in 55–60 h a week). I think it is the best job a person could have. It is fun, you get to help people and teach others. With all the changes in medicine, we are concerned that the 'system' will be so dysfunctional that best and the brightest will no longer be attracted to cardiothoracic surgery. This would be a tragedy.

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