

Dr Nadim Zacca a pioneer from Lebanon

I traveled all around the world, from USA to Brazil, to China... and I always had the joy and the pride from encountering celebrities and pioneers from Lebanon. Dr. Nadim Zacca is a typical example of those who keep the flame of adventure and success shining over the whole world.

A.J.

On the first anniversary of the world-renowned cardiovascular surgeon, Dr. Michael E. DeBakey's passing, the American Lebanese Medical Association (ALMA) held a medical symposium in Beirut in his honor. Many well-known American Lebanese physicians were invited as speakers. Among them is Dr. Nadim Michel Zacca, a prominent interventional cardiologist from Houston. He co-chaired the cardiovascular session with DeBakey's "right-hand" the famous Dr. George Paul Noon. Dr. Noon was representing the DeBakey family at the symposium. The symposium was a great success and very well attended. The program directors were: Dr. Issam Raad, chairman of the infectious disease department at M.D. Anderson Cancer Institute at Houston and Dr. George Aftimos, president of the Lebanese order of physicians in Beirut. His Excellency the minister of health, Mr. Muhammad Jawad Khalifa represented President Michel Sleiman.

We have asked Dr. Zacca about his reflections on Dr. DeBakey, whom he knew for more than 30 years:

Dr. Zacca, an A.U.B. graduate, completed his training in cardiovascular diseases at Baylor College of Medicine in 1979 with Dr. DeBakey. He joined the Baylor faculty and was promoted to Director of the cardiac catheterization laboratories and acting Chief of Cardiology at the

DeBakey V.A. medical center in Houston. He authored and/or co-authored numerous scientific publications in the field of cardiovascular diseases. He holds several U.S. and international patents on inventions related to interventional cardiology. Here is what he had to say about Dr. DeBakey:

Dr. Michael E. DeBakey is a name that has resonated in my mind since childhood when he visited Lebanon. I remember my father talking about him and his achievements, an American genius of Lebanese origin. Since then I have placed him on a pedestal. It is because of him that I chose later on to attend Baylor College of Medicine for my cardiology fellowship.

I thank God for making that choice, otherwise I would not have been so blessed as to learn from him "The Source" first-hand. A closer relationship and friendship with Dr. DeBakey began in the late 1980s when he introduced me to King Juan Carlos and Queen Sofia of Spain during their visit to Houston. He wanted me to demonstrate to them exactly how my invention (a coronary atherectomy device) worked. Later on Mr. George Zakhem came up with the idea of building the DeBakey School of Medicine in Lebanon. My deep involvement with this endeavor brought me even closer to Dr. DeBakey. I accompanied him to Lebanon on more than one occasion with Mr. Zakhem and Dr. Philip Salem. We were all fortunate enough to befriend this giant and benefit from his gracious wisdom. On several occasions he invited us to have luncheons in his office and shared with us his thoughts about politics in the Middle East, religion, the meaning of life, aging, and so much more. Nouha, my wife, and I were honored on more than one occasion by Dr. DeBakey's visits to our home in Houston. My family especially remembers the many Christmas Eves spent at his home, shared with his wonderful family. I was fortunate enough to receive from him, books as gifts with special notes attached to each one detailing his opinion about the content and/or the author



including: The Challenge of Fundamentalism, and The Language of God.



Dr. DeBakey always strove for excellence. As residents, fellows, and attendings we perceived him as a harsh educator, only to learn from experience that it was necessary for us to be almost perfect in order to save lives, not to waste time; as time, for Dr. DeBakey, was the difference between life and death. However, his core nature was that of a gentle healer and physician. I was indeed lucky to have known and learnt from such a uniquely gifted intellectual.

To describe him and give him due justice I cannot but borrow from Khalil Gibran: "...His life on this earth was one long chain of great deeds. It was a life of constant thought; for the Master knows no rest except in work. He loved work, which he defined as Visible Love. He was a thirsty soul that could not rest except in the lap of wakefulness. His was a loving heart that overflowed with kindness and zeal. He was a spring of knowledge... a pure stream of wisdom that waters and refreshes the mind of man... But as for the Master - did he not spend all the days of his life laboring for the benefit of Mankind?... If you wish to pay him due reverence, assert your claim to a portion of the knowledge in the books of wisdom he has left as a legacy to the world. Do not give to genius but take from him. Thus only shall you be honoring him. Do no mourn for him, but be merry, and drink deeply of his wisdom. Only thus will you be paying him the tribute rightly his..."

Dr. DeBakey, you will always be missed. I am so deeply proud, honored, and blessed to have known you. I am grateful to God for giving you a long fruitful life to share with us all.

Dr. Zacca learned the technique of performing coronary balloon angioplasty in 1981 by the father of this technique, Dr. Andreas Gruentzig, in Atlanta, Georgia. Soon after, it became apparent to Dr. Zacca that the balloon could not cross tight narrowings in the coronary arteries nor crack open calcified narrowings nor ones that cover only a limited area of the circumference of a coronary artery. He then started experimenting with different devices to solve these problems. It is then that he came up with the idea of a high-speed rotational burr (similar to that of a dentist's) as a new device. This idea was the brainchild of Dr. Zacca. This high-speed rotational atherectomy device was called the Rotablator. It consists of a fixed size burr the distal half of which was embedded with tiny diamond blades approximately ten microns each. The burr is attached to a flexible shaft, which permits passage of a 0.009-inch flexible spring tip guide wire. The wire can be advanced and steered independently of the shaft and the burr. Compressed air drives a turbine delivering rotational energy to the burr through the drive shaft. The burr has been shown to work like a sander and ablates preferentially fibrous/calcified noncompliant narrowings rather than elastic lubricated normal soft tissue. The resulting particles are smaller than the red blood cells and pass through the distal coronary circulation. There were however drawbacks to this device as was mentioned above, it came in fixed sizes: 1.5 mm to 2.25 mm in diameter burrs. These burrs needed large guiding catheters or conduits to admit them to the coronaries, which made it somewhat risky for the patient. Also, multiple burrs had to be used in incremental sizes. This made the procedure not only tedious to perform but also expensive.

Dr. Zacca again came up with a newer invention consisting of a variable size burr made out of a Nitinol spring shaped into an oval. Its surface was made to be abrasive like the Rotablator burr. Its distal end is attached to an inner torque cable and the proximal end of the coil is attached to a coaxial outer torque cable. The abrasive tip may be expanded or contracted by manually turning the cables relative to each other from outside the body. With the ablator tip contracted to a minimal diameter of 1.7 mm the catheter is introduced into an artery through a commonly used guiding catheter for regular balloon angioplasty and advanced over a standard guide wire to the site of the





obstruction. The tip is expanded to the desired working diameter (from 1.7 mm up to 3.25 mm) and the inner and outer torque cables are locked together and coupled to the external turbine. The external turbine is activated and rotates the ablator tip to abrade the obstructing material into particles smaller than the red blood cells.

As has been witnessed over the past decade, coronary stenting has



proven to become the treatment of choice for coronary artery narrowings especially with the introduction of the medicated stents. High-speed rotational atherectomy is now being used only in cases where a balloon could not expand a heavily calcified narrowing or cross a very tight one. Some interventional operators have been using it to sand down a narrowing and prepare it to better deploy a medicated stent.

WHAT DO YOU KNOW ABOUT ASTHMA

Asthma is a chronic disease characterized by recurrent attacks of breathlessness and wheezing, which vary in severity and frequency from person to person. Symptoms may occur several times in a day or week in affected individuals, and for some people become worse during physical activity or at night. During an asthma attack, the lining of the bronchial tubes swell, causing the airways to narrow and reducing the flow of air into and out of the lungs. Recurrent asthma symptoms frequently cause sleeplessness, daytime fatigue, reduced activity levels and school and work absenteeism. Asthma has a relatively low fatality rate compared to other chronic diseases.

Facts about asthma

- WHO estimates that 300 million people currently suffer from asthma? Asthma is the most common chronic disease among children.
- Asthma is a public health problem not just for high-income countries; it occurs in all countries regardless of the level of development. Most asthma-related deaths occur in low- and lower-middle income countries.
- Asthma is under-diagnosed and under-treated. It creates substantial burden to individuals and families and often restricts individuals' activities for a lifetime.

The causes

The fundamental causes of asthma are not completely understood. The strongest risk factors for developing asthma are a combination of genetic predisposition with environmental exposure to inhaled substances and particles that may provoke

allergic reactions or irritate the airways, such as:

- indoor allergens (for example, house dust mites in bedding, carpets and stuffed furniture, pollution and pet dander)
- outdoor allergens (such as pollens and moulds)
- tobacco smoke
- chemical irritants in the workplace
- Air pollution.

Other triggers can include cold air, extreme emotional arousal such as anger or fear, and physical exercise. Even certain medications can trigger asthma: aspirin and other non-steroid anti-inflammatory drugs, and beta-blockers (which are used to treat high blood pressure, heart conditions and migraine).

Urbanization has been associated with an increase in asthma. But the exact nature of this relationship is unclear.

Reducing the asthma burden

Although asthma cannot be cured, appropriate management can control the disease and enable people to enjoy a good quality of life. Short-term medications are used to relieve symptoms. People with persistent symptoms must take long-term medication daily to control the underlying inflammation and prevent symptoms and exacerbations.

Medication is not the only way to control asthma. It is also important to avoid asthma triggers - stimuli that irritate and inflame the airways. With medical support, each asthma patient must learn what triggers he or she should avoid.

Although asthma does not kill on the scale of chronic obstructive pulmonary disease (COPD) or other chronic diseases, failure to use appropriate medications or to adhere to treatment can lead to death.

GE Healthcare



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A pioneer of Medicine in Lebanon: Dr Charles Khalil Nami Nucho ¹

1916 - 2009 ²



Charles Nucho was born in Beirut, the son of Nami Nucho and Adele Faris Mishalany.

Charlie completed his basic education at the Ahlieh School and the French section of the AUB prep school (now International College) then earned his BA and MD at AUB where he also completed his internship. At that time, Hamlin Memorial Sanatorium in Hammana was at full capacity under the direction of his father, Dr Nami Nucho, also an AUB graduate (1904). Charlie's dream was to work with his father at Hamlin, and the dream came true after a grueling two years of training in chest diseases at Columbia University and the Trudeau School of Tuberculosis in New York. In 1947, he was elected Fellow of the American College of Chest Physicians (FACCP)

In 1948, mentored by his father, he started his career at Hamlin Sanatorium and Dahr-el-Bachek Hospital as chief surgeon, bursting with new ideas and therapies. He shared his experiences with his students as a lecturer in tuberculosis at AUB. In 1950, he was appointed Assistant Director of the Sanatorium and from 1955 until his retirement in 1990 served as Director.

Charlie's dedication and care for his patients earned him the Lebanese Order of Merit

(Gold) in 1954. His reputation as a physician and a man of principle also came to the attention of the Order of Saint John of Malta and in 1974 he was knighted "*Chevalier d'Honneur of the Grand-Prieure d'Europe de l'Ordre des Chevaliers Hospitaliers*"

Dr Nucho served as the Chairman of the Board of the Syndicate of Private Hospitals in Lebanon as well as Member of the Board of the Order of Physicians (Beirut) for many years. Other responsibilities include serving on the board of directors of the Arabia Insurance Company and of ABC and of YMCA.

By this time, the unrest in the Upper Metn had reached the point where physicians were fleeing the area. Overnights the sanatorium became a general hospital treating injured from all parties and faiths (1976). Charlie's dedication to the hospital and his faith in the people compelled him to continue to serve the community despite life-threatening adversity. He and his wife, Winnie, a nurse and an MPH graduate from AUB, often worked around the clock, drawing their strength from faith, prayer and the true life miracles they witnessed every day. He treated all his patients with the same concern and kindness, and he never allowed a hurtful word to cross his lips.

Throughout the war years, the protective hand of God remained over the hospital. During that period, five aerial bombs landed in and around the hospital and remained unexploded.

After Charlie retired from Hamlin in 1990, he devoted his time to helping Winnie spread awareness about the benefit of organic farming within the community. An organic farming project was started that included raising the awareness to the dangers of banned chemicals used in crops.

Charlie is survived by his beloved wife, Winnie; his four children, Roger, Ramsay, Adele and Grace, and nine grandchildren

¹ Prepared by Dr Nabil Kronfol using documentation made available by the family

² Dr Nucho passed away on July 05 2009. He was 93 years old