Memorial Tribute to Andreas R. Grüntzig

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Rutishauser

Center of Cardiology, University Hospital, Geneva, Switzerland

As a representative of Europe, I bring the condolences of many friends of Andreas Grüntzig in the Old World.

I was asked to say a few words about the first period of Andreas Grüntzig's life in Germany and Switzerland. His youth was not an easy one. Andreas was born in Dresden in 1939. When he was 5 years old, he lost his father in the war. Having gone to college in Leipzig, Andreas – by decision of the socialist regime – was supposed to do bricklaying. Instead, with his courageous mother and brother, he fled to West Germany, before the wall was built.

Andreas studied medicine in Heidelberg, but the post of assistant in social and preventive medicine did not satisfy him.

We met first in 1969 when he came to Zurich to do general internal medicine. Later he began as a fellow in angiology. He was an industrious scholar and a very good observer. Studying the Achilles tendon reflex after treadmill exercise, he showed that patients with intermittent claudication had a slowed relaxation of the calf muscles. These results prompted our early studies of negative dp/dt in the heart during ischemia.

He discussed the papers of Dotter and Judkins, whose method he went to see applied in practice by Zeitler and Schoop in Engelskirchen, Germany. It was obvious that two or more concentrically sliding catheters of increasing dimensions, with a large hole at the point of insertion in the artery, but especially with mainly longitudinal forces on the endothelium, were not the best solution to attack stenoses. Instead, a non-compliant balloon, passed empty into the stenosis, would exert radial forces when expanded, and could be mounted on a small catheter. Basically a very simple idea!

Memorials

193

A busy activity developed with catheters of different material, plastic balloons, various molds, knife and thread, adhesive plaster, glue, heat gun and water bath, partly on Andreas' kitchen table, partly in the laboratory. Contacts with the technical university for better materials and with the industry for precise fabrication followed. The balloons of various sizes were tested under all sorts of rigorous circumstances. At the end of 1973, Grüntzig applied his dilatation catheter with success in peripheral arteries in man, first in stenoses of the femoro-popliteal axis and later in iliac arteries. Patients who were supposed to have a leg amputated walked happily out of the hospital on both legs.

He was finally given a post of Oberarzt (a staff position) in angiology.

At this time, it became obvious that I had to hire Andreas for cardiology; after all, it was the same disease. Grüntzig joined our cardiology group, even though others thought that it was unwise to take an angiology fellow as an Oberarzt in cardiology. But it was a pleasure to teach Andreas the transseptal puncture, and much more of our fascinating speciality. Also the potential to use cardiac catheters for something other than only diagnosis was fascinating.

The miniaturization of the balloons with the double lumen, which we thought was necessary for perfusion during dilatation, proceeded well. We employed them on dogs with coronary stenoses in 1975; Andreas Grüntzig reported these results at the German Heart meeting.

This was a happy time for Andreas. His optimistic mind, his tenacious character – even his single-mindedness – his pragmatic approach to the problems (not abstract, but practical!), and especially his personal engagement were great. It would be wrong to forget his sense of humor. We spent many cheerful hours together with his first wife, for example during the skiing days of our cardiology group, where he was one of the speediest skiers.

He often took calculated risks. He started to take flying lessons on a Piper and later on a Cessna plane. He was a high flyer. Flying became his second hobby, the first being his professional engagement. He told me once: ‘Flying means to me confirmation that I have no fear!’

In the beginning of 1976, I was called to succeed Duchosal in the chair at Geneva, and Hans Peter Krayenbühl took over the cardiology group of the Medical Polyclinic in Zurich.

Fortunately, there was

no ethical committee that could reject the project of Andreas. Although critical voices were numerous, Andreas Grüntzig had, in the person of Ake Senning, a surgeon who backed him up with his authority: ‘If something happens, I operate’ he said.

You know what followed: Andreas applied his coronary dilatation catheter successfully for the first time on the 16th of September 1977, in a 38-year-old salesman with severe angina of functional class III. Operator and patient were of equal age. At reangiography 5 weeks later, the area of dilatation was smooth, and the obstruction could barely be seen any more. The patient has now outlasted his operator.

Friends of Andreas outside Zurich, as Martin Kaltenbach in Frankfurt, and Richard Myler and Simon Sterzer in the US, played an important role, supporting Andreas in the further developments.

As has happened many times in medicine, a new approach goes through several phases before it finds its adequate place: First, refusal or condemnation because it is inconceivable. Second, if it works, astonishment and often jealousy of others. And third, it is taken for granted, even self-evident. So was it also with percutaneous transluminal coronary angioplasty (PTCA).

The first patient gave an interview in a tabloid. Andreas could not escape the journalists, and was interviewed extensively – he obviously enjoyed the limelight. But many physicians in Switzerland thought that Andreas’ attitude was not decent for a doctor. When he submitted his first abstract on PTCA, the Committee of the Swiss Society for Cardiology was divided for emotional reasons; one vote only made the difference, so that it was accepted.

Fortunately, it was different at the American Heart Association meeting in October 1978.

Grüntzig had applause in the middle of his first report on coronary patients, something rarely seen during scientific conferences; and he quickly made many friends who visited him in Zurich. Andreas was appointed lecturer in 1977. With great courage he demonstrated his approach in his first lively courses. But, in Zurich, Grüntzig’s important work was not honored as it would have been abroad. A prophet’s voice is seldom heard in his own land!

The consequences you know, as Dr. Hurst has described them.

Farewell Andreas! We bow in honor of a friend with great personal engagement and a man with courage.

Not all risks are calculable!