Bitter Lessons Learned From a Vascular Surgeon Inventor About Patents, Colleagues, Big Companies and Lawyers. MD Inventors are Often Fleeced.

Juan C Parodi MD
Professor of Surgery
University of Buenos Aires (Hon.) and University of Michigan

DISCLOSURES

- Bolton Medical, Consultant

Minimally Invasive Vascular Surgery

- CT Angiogram of the coronary arteries
- Endografts
- Flow reversal in the internal carotid artery as cerebral protection during CAS
- Endosutures
- Cutter for aortic dissections
- Parodi wire

Coronary Arteries CT Angiogram

- During a TEVAR for a descending thoracic aortic aneurysm case in 1994, I used adenosine to stop the heart and be able to precisely deploy the endograft.
- The heart restarted to beat in 20 seconds and the procedure ended successfully.
- On reviewing the case, I thought: “if we can stop the heart we could see the coronary arteries performing a CT scan after the injection of contrast media in a vein”.

Coronary Arteries CT Angiogram

- The following day we did an experiment in a pig and we sent the optical disc to MMS in Boston. In a week we had the image of the coronary arteries of the pig!!!
- I called the owner of Marconi, a company that produced the equipment we used for the experience.
- In less than a week we had the owner of the company in Buenos Aires. I asked him to build a very rapid scan with very small slices to obtain a good resolution of the arteries.

Coronary Arteries CT Angiogram

- In three months we had the new equipment in our radiology department.
- We studied 10 dogs with the same method and I asked an interventional cardiologist to do coronary artery angiograms. We compared the two images and resulted amazingly similar.
- After few weeks the company in Buenos Aires left the offices and went to Europe. The owner never returned our phone calls.
- Later on he sold the patent and know how for many millions of dollars.
Coronary Arteries CT Angiogram

What did we learn from this experience?:
- Protect your ideas before disclosing it !!!
- Don’t trust people you don’t know !!!

Endograft

- The initial idea was conceived in 1976. The first prototype was built the same year and applied in dog’s aortas.
- In 1988 I switched from a self expandable stent-graft combination to balloon expandable stents.
- I included, erroneously, in the patent a colleague and an engineer (They didn’t invent anything)

Endograft

- In September of 1990 we implanted successfully the first endograft in a patient with an AAA. I invited my radiology partner to be part of the team.
- In November 1990 I signed a contract with a big company to commercialize the device.
- A clinical trial was organized with participation of four important centers.
- A week before starting the trial I was informed by the company that they decided to use a different device for the trial.

Endograft

- The colleague that I had invited to participate in the patent, in the first clinical case and publication had filed his own patent, which was a modification of mine without including and informing me. The trial failed and the project abandoned. The company kept the patent and prevented me to work with other companies.
- After 10 years, through an arbitration, I recovered my patent with non-exclusive rights.
- The engineer I invited is selling my device in Argentina without paying royalties.

Endograft

What did we learn from this experience?:
1) Be selective choosing your partners
2) Include a timeframe in your contracts with companies. Give a maximum of 3 years to develop the device and perform clinical trials.
3) Include an efficient counselor in your discussions with companies.
Flow Reversal device
- Developed with funds of an angel investor.
- Great development and clinical experience, sold to Gore and became GFR.
- I suffered an important dilution of my equities but kept the royalties.

Flow Reversal device
What did we learn from the experience:
- Always ask for royalties, they cannot be diluted. Preferentially royalties without cap.
- Include in the contract an anti-dilution condition of at least 10% of the value of the company you create.

Endosutures
- Developed by me and patented, later on with help of an engineer we developed prototypes. We did an animal study and implants in cadavers. Solid patent position. I presented the idea in several meetings including Veith’s.
- I had the visit of two venture capital persons from California. In Buenos Aires we founded a company including three partners. The company was called APTUS.
- They tried to develop an endograft against my opinion and they failed but diluted my participation.

Endosutures
- They decided to continue just with the endosuture, trials were successful. They sold the company by 60 million dollars. I received 18,000 dollars!!! And I didn’t have any recognition as creator of the device.
Endosutures
What did we learn with the experience:

- Have an attorney working with you while you negotiate contracts!!
- Ask for royalties without cap and include a non-dilution condition.

Endo-cutter for aortic dissections

- Developed at the University of Michigan with a grant from a big company. The company has the right of first refusal in the case the company was sold.
- Ready for clinical trials. We transferred the rights to the Innovation Department of the Cleveland Clinic, keeping 40% of the value.

Recommendations

- Don’t include in the patents people who did not participate in the invention
- Choose carefully your partners
- Choose carefully the investors and companies
- Have a strong patent position, choose the best patent attorney you can afford or file a provisional patent to have priority and then deal with companies that can pay the final patent
- Always ask for royalties without cap, royalties cannot be diluted
- Introduce an atidilution clause, keep at least 10%
- Give timeframes, three years is reasonable, if they do not comply recover your rights and leave.