Bipolar biparietal bidirectional application of radiofrequency in experimental in vitro/in vivo environment

Propositions accompanying the PhD-thesis

Bipolar biparietal bidirectional application of radiofrequency in experimental in vitro/in vivo environment

Francesco Matteucci, 14 December 2021

1. In vitro setup, there is no difference in the dimension of lesions occurring after delays between one to four hours within a hybrid cardiac ablation scenario (*This thesis*).
2. In vitro setup, the simultaneous application of radiofrequency from the endocardial and epicardial sides seems to produce broader lesions (*This thesis*).
3. The interposition of tissue between the two electrodes (biparietal setting) produces narrower but transmural lesions in vitro setup (*This thesis*).
4. The in vitro simultaneous application of uniparietal bipolar energy seems to ensure a higher transmurality rate, but it is less satisfactory compared to the biparietal bipolar mode (*This thesis*).
5. Using a magnet force as a firm contact force in a biparietal bipolar setting to create linear lesions seems to be an effective way of ensuring a high transmurality rate along the entire ablation line (*This thesis*).
6. A new biparietal bipolar setting could be beneficial for other applications in the clinical field (*This thesis: Impact section*).
7. "I view both approaches [The maze IV and hybrid procedures] as transition procedures that will devolve into a secondary role for stand-alone AF treatment as soon as more effective tools will be available. I believe that these tools will be catheter-based devices that will allow interventional cardiologists to create linear lesions... in the atria as effectively as surgeons can place them with a knife" (*J. Cox, 2018*).
8. "The admiration for the cat is the beginning of the aesthetic sense" (*Erasmus of Rotterdam*).
9. "A brand is no longer what we tell the consumer it is – it is what consumers tell each other it is" (*Scott Cook, Founder, Intuit*).
10. "Only a biker knows why a dog sticks his head out of a car window" (*Anonymous*).