Heart transplantation as salvage treatment for intractable infective endocarditis

Pierre Tattevin, Patricia Muñoz, Asuncion Moreno, Guillaume Hékimian, François Delahaye, Xavier Duval, María Ángeles Castel, Barbara Hasse, Natalia Jamarillo, Josip Vincelj, Danannah Wray, Carlos Mestres, Jose Miro, and International Collaboration on Endocarditis (ICE)

Background / Objectives
• Infective endocarditis (IE) remains a severe disease with contemporary in-hospital mortality rates of 20%.
• Although valvular replacement is performed in 50% of patients during the acute phase, heart transplantation remains the last resort in selected patients with extensive perivalvular lesions or end-stage cardiac failure.

Methods
• Cases were identified through the International Collaboration on Endocarditis (ICE) network.
• All patients who underwent heart transplantation (HT) during the acute phase of IE, with at least 3 months follow-up, were enrolled.
• Only patients who fulfilled Duke criteria for definite IE were enrolled.
• Data were extracted from medical charts on a standardized questionnaire.

Results
• Between 1991 and 2017, 19 patients (6 women, 13 men), with a median age of 52 years (IQR, 41-61) underwent heart transplantation for IE refractory to optimized medical treatment and cardiac surgery in Spain (n=9), France (n=6), and Colombia, Croatia, Switzerland, and USA (one patient each).
• IE affected prosthetic (n=10), or native valves (n=9), primarily aortic (56%), and mitral (28%).
• Pathogens were oral streptococci (n=7), Staphylococcus aureus (n=5, including 2 methicillin-resistant), Enterococcus faecalis (n=2), and Mycoplasma hominis, Haemophilus para-influenzae, Candida albicans (one patient each). 2 cases were not documented.
• Main cardiac lesions were vegetations (n=17), severe regurgitation (n=15), peri-annular abscesses (n=9), prosthetic valve disinsertion (n=4), and intra-cardiac fistula (n=1).
• Seventeen patients underwent cardiac surgery at least once before transplantation, and 4 patients were on circulatory assistance (left ventricular assist-device, and extra-corporeal membrane oxygenation, 2 patients each).
• Complications: Rejection (n=5), CMV infection (n=2), second heart transplant, CAD, kidney transplant, thrombotic microangiopathy (one patient each).
• Six patients died (32%), including 4 during the first month post-transplant.
• Thirteen patients (68%) survived, with a median follow-up of 44 months post-transplantation (IQR, 13-88).

Conclusion
• Heart transplant not contra-indicated during IE, but still rarely performed (2-3% of all indications for HT)
• Selected patients: Young (median, 52 years), limited comorbidities
• Usual scenario: i) Sepsis controlled; ii) Life-threatening cardiac lesions, can’t be fixed by cardiac surgeons anymore
• Outcome similar to other indications for HT (65% survival 5 years)