Ultrasound of the heart is an affordable and simple method of study, which reveals some heart disease before the onset of their symptoms. Echocardiography usually shown to people with complaints of shortness of breath, dizziness, weakness, loss of consciousness, feeling of palpitations or “interruption” of the heart, pain in the heart, etc. The mitral valve lies between the left atrium and left ventricle, and does not allow blood to flow from the left atrium into the left ventricle during relaxation of the heart (diastole). The main symptoms of mitral stenosis are: dizziness, shortness of breath, weakness, dry cough, heart attacks, chest pain. After heart transplantation, immunosuppressive medications are used to reduce the risk of the donor’s organ rejection. The focus of medical therapy following a heart transplantation is to prevent graft rejection, since the host’s immune system is programmed to attack foreign antigens, which could cause injuries and life-threatening conditions. The possibility of rejection is everlasting, which inevitably demands the use of immunosuppressive drugs and raises the risk of unwanted side effects. Selective use for induction therapy and preliminary experience in case reports provided us with some promising results in treating refractory rejection after heart transplantation by alemtuzumab. Despite the large potential for this model, little is known about the physiology, haemodynamics, and morphology of the transplanted heart and there is no method to assess objectively graft survival. This work describes in detail the use of high-frequency ultrasound for investigating the small transplanted mouse heart. For the first time, insights are made into blood flow, the effects of graft rejection, and organ survival with new before seen high-resolution images unachievable with conventional ultrasound. This work will be of significant interest to investigators, clinicians and students in the field.