A single-center, thirty-year experience of heart transplantation: analysis of the evolution of patients profile and long term outcomes.

Authors:
A Turco1, P Totaro2, C Pellegrini3, S Guida1, B Cattadori2, A Di Matteo4, E Seminari4, R Camporotondo5, M Riccardi6, S Ghio1, C Raineri1, L Scelsi1, AM D'armini7, L Oltrona Visconti1, S Pelenghi2, 1Policlinic Foundation San Matteo IRCCS, Cardiology - Pavia - Italy, 2Policlinic Foundation San Matteo IRCCS, Cardiac Surgical Department - Pavia - Italy, 3Policlinic Foundation San Matteo IRCCS, Cardiac Surgery-Clinical,Surgical,Diagnostic and Paediatric Sciences Department University of Pavia - Pavia - Italy, 4Policlinic Foundation San Matteo IRCCS, Department of Infectious disease - Pavia - Italy, 5Policlinic Foundation San Matteo IRCCS, Cardiac Intensive Care Unit - Pavia - Italy, 6Policlinic Foundation San Matteo IRCCS, Cardiopulmonary anhestesiological - Pavia - Italy, 7Policlinic Foundation San Matteo IRCCS, Cardiac Surgery-Cardiopulmonary Surgery and Pulmonary Hypertension Unit, University of Pavia - Pavia - Italy.

Topic(s):
Heart Transplantation

Citation:
Background: Heart Transplantation is still the gold standard therapy for patients suffering from end-stage cardiomyopathy and has been successfully performed in our center since 1985. Over this 30 years period there has been a significant evolution in patients characteristics and in candidate selection (either as a donor and as recipient) as shown by the recent benchmark from International Society of Heart and Lung Transplantation (ISHLT). Here we analyze the evolution of patients profile in our population and we correlated such evolution to the clinical outcomes and to the overall data from ISHLT.

Materials and Methods: overall 1122 patients underwent heart transplantation at our center from November 19th1985 to date. To analyze the evolution patients profile and donor criteria, patient population was divided in 4 groups according era of transplantation following ISHLT model (Group A from 1985 to 1991; Group B from 1992 to 2003; Group C from 2004 to 2008 and Group D from 2009 to date). Patients characteristics at time of transplantation, donor criteria ad clinical outcomes were analyzed and compared within 4 groups. An overall comparison of our results to the data from ISHLT was also performed.

Results: overall Kaplan-Meier survival curve correlates favourably with ISHLT data showing a 20 years survival approaching 40%. Patients age at transplantation changed significantly among 4 groups from a median of 49 years (95% CI 47 to 51) in Group A to 54 years (95% CI 50 to 57) in Group D (p<0.001). Likewise donor age also changed significantly from a median of 24 years (95% CI 22 to 28) in Group A to 43 years (95% CI 39 to 47) in group D (p<0.001). Time on waiting list also changed significantly from a median of 115 days (95% CI 94 to 137) in Group A to 293 (95% CI 200 to 401) in Group D (p<0.001). As a marker of evolution of accepted donor criteria also ischemic time changed from 125 ± 52 minutes of Group A to 153 ± 61 minutes of Group D (p<0.001). As showed in Fig 1, Kaplan-Meier survival curves demonstrated a worse 1-year survival in Group D compared to others 3 Group.

Conclusions: the significant changing characteristics of both recipients and donors, over 30 years of activity, had a significant impact in early (1 year) postoperative survival following heart transplantation. Although medium/long term outcomes are still satisfactory in patients surviving at least 1 year, these data clearly suggest a more accurate patients selection and the need of alternative treatment before patients conditions deteriorate while on waiting list for heart transplantation.
Abstract: P5416
A single-center, thirty-year experience of heart transplantation: analysis of the evolution of patients profile and long term outcomes.

Authors: A Turco 1, P Totaro 2, C Pellegrini 3, S Guida 1, B Cattadori 2, A Di Matteo 4, E Seminari 4, R Camporotondo 5, M Riccardi 6, S Ghio 1, C Raineri 1, L Scelsi 1, AM D’armini 7, L Oltrona Visconti 1, S Pelenghi 2

1 Policlinic Foundation San Matteo IRCCS, Cardiology – Pavia – Italy,
2 Policlinic Foundation San Matteo IRCCS, Cardiac Surgical Department – Pavia – Italy,
3 Policlinic Foundation San Matteo IRCCS, Cardiac Surgery–Clinical,Surgical,Diagnostic and Paediatric Sciences Department University of Pavia – Pavia – Italy,
4 Policlinic Foundation San Matteo IRCCS, Department of Infectious disease – Pavia – Italy,
5 Policlinic Foundation San Matteo IRCCS, Cardiac Intensive Care Unit – Pavia – Italy,
6 Policlinic Foundation San Matteo IRCCS, Cardiopulmonary anhestesiological – Pavia – Italy,
7 Policlinic Foundation San Matteo IRCCS, Cardiac Surgery–Cardiopulmonary Surgery and Pulmonary Hypertension Unit, University of Pavia – Pavia – Italy,

Topic(s): Heart Transplantation

Citation: Background: Heart Transplantation is still the gold standard therapy for patients suffering from end-stage cardiomyopathy and has been successfully performed in our center since 1985. Over this 30 years period there has been a significant evolution in patients characteristics and in candidate selection (either as a donor and as recipient) as shown by the recent benchmark from International Society of Heart and Lung Transplantation (ISHLT). Here we analyze the evolution of patients profile in our population and we correlated such evolution to the clinical outcomes and to the overall data from ISHLT.

Materials and Methods: overall 1122 patients underwent heart transplantation at our center from November 19th 1985 to date. To analyze the evolution patients profile and donor criteria, patient population was divided in 4 groups according era of transplantation following ISHLT model (Group A from 1985 to 1991; Group B from 1992 to 2003; Group C from 2004 to 2008 and Group D from 2009 to date). Patients characteristics at time of transplantation, donor criteria ad clinical outcomes were analyzed and compared within 4 groups. An overall comparison of our results to the data from ISHLT was also performed.

Results: overall Kaplan-Meier survival curve correlates favourably with ISHLT data showing a 20 years survival approaching 40%. Patients age at transplantation changed significantly among 4 groups from a median of 49 years (95% CI 47 to 51) in Group A to 54 years (95% CI 50 to 57) in Group D (p<0.001). Likewise donor age also changed significantly from a median of 24 years (95% CI 22 to 28) in Group A to 43 years (95% CI 39 to 47) in group D (p<0.001). Time on waiting list also changed significantly from a median of 115 days (95% CI 94 to 137) in Group A to 293 (95% CI 200 to 401) in Group D (p<0.001). As a marker of evolution of accepted donor criteria also ischemic time changed from 125 ± 52 minutes of Group A to 153 ± 61 minutes of Group D (p<0.001). As showed in Fig 1, Kaplan-Meier survival curves demonstrated a worse 1-year survival in Group D compared to others 3 Group.

Conclusions: the significant changing characteristics of both recipients and donors, over 30 years of activity, had a significant impact in early (1 year) postoperative survival following heart transplantation. Although medium/long term outcomes are still satisfactory in patients surviving at least 1 year, these data clearly suggest a more accurate patients selection and the need of alternative treatment before patients conditions deteriorate while on waiting list for heart transplantation.