

## **REPORT SUMMARY**

### **1. BLOOD AND MARROW TRANSPLANTATION**

There were 213 new transplantations done in Malaysia in 2009 with 11 centres performing transplants.

The majority of all transplants were for malignant disorders and most of these are haematological malignancies like leukaemia (42%) and lymphoma (32%). The main non-malignant disorders transplanted were thalassaemia and aplastic anaemia (6% each).

Mean age of new transplant patients in 2009 was  $31 \pm 18$  years; 58% were male, 46% Malay, 37% Chinese, 7% Indian and 9% others. Autologous transplants accounted for 48%. Eighty-five percent of the transplant source was from peripheral blood stem cells and 95% were from Human Leukocyte Antigen (HLA) identical donors.

In 2009m 43 of the transplant recipients died. Underlying disease and infection were the commonest causes of death accounting for 63% and 28% respectively.

### **2. CORNEAL TRANSPLANTATION**

There were 47 centres which provided cornea transplantation data.

Two hundred and nine new cornea transplantations were reported in Malaysia in 2009. Mean age of new transplant recipients in 2009 was  $44 \pm 20$  years. Of these, 63% were male. Twenty-nine percent of recipients were Malay, 33% were Chinese, 28% were Indian and 10% were other races.

The primary diagnoses for cornea transplantation recipients in 2009 were keratoconus (22%), microbial keratitis (22%), pseudophakic bullous keratopathy (13%), corneal perforation (9%) and corneal dystrophy (8%).

Sixty-six percent of recipients were legally blind before their transplant surgery.

In 2009, 62% of donated corneas were from the USA, 20% from local sources and 18% from Sri Lanka. The mean age of the donors was  $56 \pm 16$  years.

The commonest cornea transplantation surgery performed was penetrating keratoplasty (86%) i.e. transplantation of a full thickness cornea tissue. Graft survival at 1 year was 77%, 65% at 3 years.

### **3. HEART AND LUNG TRANSPLANTATION**

There were a total of 19 patients with heart transplantations reported to the Registry between 1997 and 2009; 1 heart transplant was done in 2009. Eight grafts were functioning at the end of 2009 and all were followed up in Institut Jantung Negara.

The transplant patient survival rate was 59% and 42% at 1 year and 3 years respectively.

There were no lung transplants in 2009. At the end of the year there were 2 patients with lung transplants surviving with functioning graft (from a total of 4 done since 2005).

#### **4. LIVER TRANSPLANTATION**

There were a total of 109 liver transplantations reported to the Registry between 1993 and 2009; 62 grafts were functioning by the end of 2009.

There were 8 new liver transplantations done in Malaysia in 2009. There were 5 follow-up centres for liver transplant recipients in 2009.

Mean age of all transplant patients was  $8.9 \pm 14$  years (range 9 months to 74 years); 50% were male, 54% Chinese, 37% Malay, 7% Indian, 70% were for biliary atresia. Majority were living donor liver transplantations (72%).

At the time of transplantation the main immunosuppressive drugs used were tacrolimus (77%) and steroids (63%).

Transplant patient survival rate for the cohort 1993 to 1998 was 71% at 1 year; survival rate for the cohort 1999 to 2009 was 65% at 1 year.

#### **5. RENAL TRANSPLANTATION**

There were 57 follow-up centres for renal transplant recipients in 2009. There were 109 new renal transplants in 2009, 4 per million population per year.

The number of functioning renal transplants in 2009 was 1779. The transplant prevalence rate was 63 per million population.

In 2009, the mean age for new transplant recipients was  $37 \pm 13$  years, 60% were male, 12% had diabetes, 7% were anti-HCV positive at the time of transplantation.

Ninety-four percent of prevalent renal transplant recipients were on prednisolone, 64% on cyclosporine, 27% on tacrolimus, 60% mycophenolate mofetil and 22% on azathioprine.

In 2009, 39 (2%) of prevalent transplant recipients died and 34 (2%) lost their grafts. Infection, cardiovascular causes and died at home were the commonest causes of death accounting for 35%, 23% and 21% respectively. Cancers were the fourth commonest cause at 14%. Renal allograft rejection accounted for 68% of graft loss.

The overall transplant patient survival rate from 2000 to 2009 was 95%, 90%, 87% and 79% at 1 year, 3 years, 5 years and 10 years respectively, while the overall graft survival rate for these years was 92%, 86%, 80% and 68% respectively.

## **6. HEART VALVE TRANSPLANTATION**

There were a total of 237 heart valve homografts reported to the Registry between 1996 and 2009; 200 grafts were functioning at the end of 2009. One hundred and six were aortic and 121 were pulmonary valves.

Mean age of all heart valve transplant patients was  $10.2 \pm 10$  years (range 1 month to 70 years); 50% were male, 64% Malay.

## **7. BONE AND TISSUE TRANSPLANTATION**

In 2009, 42 bone allografts, 3 frozen tendons and 932 amniotic membranes were supplied by Tissue Bank, USM.

Eleven hospitals used the bone grafts and 1 centre used the amniotic membranes. Characteristics were reported for only 16 of the recipients.

## **8. CADAVERIC ORGAN AND TISSUE DONATION**

There had been 143 referrals for donation with 39 donors in 2009, the highest recorded in Malaysia in a calendar year. This translated to a conversion rate of 27%. Eighteen were brain dead multi-organ and tissue donors and 21 were post cardiac death tissue donors. The donation rate was 1.38 donations per million population.

The mean age of the donors was  $28.8 \pm 16.7$  years, age range 25 days – 68 years of age. Sixty-seven percent were male, 66% were Chinese, 26% Indian, 8% Malay.

Three donors carried the donor pledge card. Nineteen of the donors died from accidents, 13 died from medical causes. Eighty-two percent of donations took place in MOH hospitals, 10% from University hospitals and 8% private hospitals.