

Media coverage of liver transplant events promotes donations from the deceased

Deceased-donor liver transplantation (DDLT) is an effective life-saving treatment for liver failure and small unresectable hepatocellular carcinomas, but is hindered by the limited supply of liver grafts, particularly in Asia.¹ Living-donor liver transplantation (LDLT) has emerged swiftly as the alternative.² Technical breakthroughs in liver transplantation are often widely covered by the mass media. Samaritan acts of altruistic strangers as living liver donors as well as liver transplant candidates desperately appealing for grafts are reported. However, the influence of such media coverage on the rate of deceased-donor organ donation (DDOD) has not been studied.

We archived the monthly numbers of all DDLTs performed from 2008 to 2011 at Queen Mary hospital, which was the only liver transplant centre serving the 7 million inhabitants of Hong Kong since 2004 (Fig). Key liver transplant events covered widely by the mass media during this period were recorded and classified into three categories: (a) celebrity hero influence, (b) medical success, and (c) emotional response.

Key events

Events 1 and 2

Two individuals unrelated to the recipients volunteered as living donors and underwent donor right hepatectomy. The two recipients, one with an acute flare of hepatitis B and the other with Budd-Chiari syndrome, were both desperately ill with liver failure, warranting urgent transplantation.

Event 3

Donor interchange was performed to avoid ABO-incompatible LDLT.³ In brief, an A-to-B donor and recipient pair interchanged with a B-to-A donor and recipient pair. The two LDLTs were performed simultaneously.

Event 4

A 21-year-old male with porphyria was in progressive liver failure. His sister volunteered as liver donor but was ABO-incompatible. The family approached the

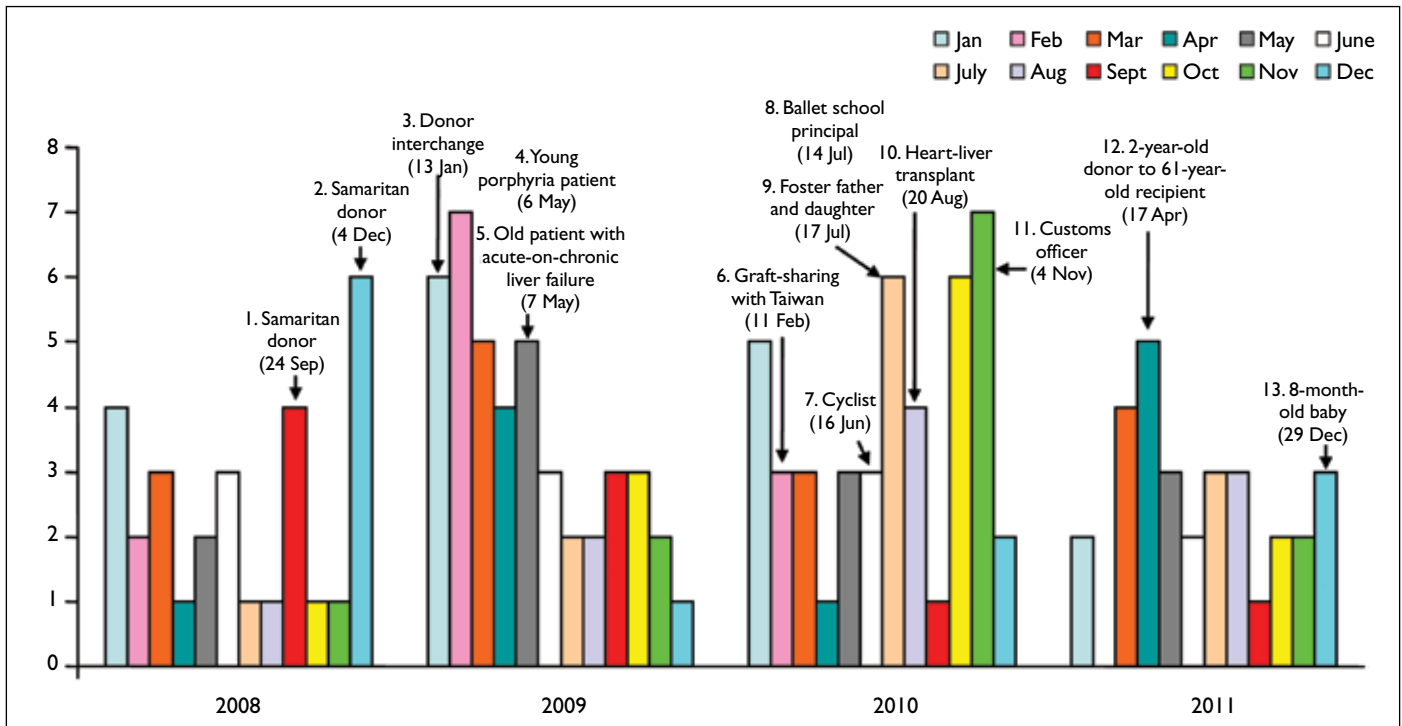


FIG. Chart showing the monthly numbers of deceased-donor liver transplantation performed from January 2008 to December 2011. Key events during the period reported by the mass media are indicated.

mass media in an appeal for a liver donation. The patient also promoted this idea on Facebook. An unrelated potential donor was recruited and worked up. However, the patient developed an intracerebral haemorrhage and could not be transplanted.

Event 5

A 60-year-old man had acute-on-chronic liver failure from hepatitis B. There was no suitable liver donor in his family and relatives. While awaiting a graft for transplantation, he developed convulsion and fungal pneumonia.

Event 6

A brain-dead donor with blood group AB was available. At the time, there was no transplant candidate with the same blood group in Hong Kong. The liver was flown to Taiwan to save a patient. Ten years earlier in 1999, our centre received a partial right liver graft from Taiwan.⁴

Event 7

A 50-year-old cyclist was hit by a fallen tree. He sustained a severe head injury and was certified brain-dead. His organs were transplanted to multiple recipients as agreed by his family.

Event 8

A 40-year-old ballet school principal was a victim of violence in a robbery. She sustained a very severe head injury from the attack and was certified brain-dead. Many of her organs were donated, as agreed by her family.

Event 9

A 60-year-old hepatitis-B-virus carrier had a small unresectable hepatocellular carcinoma. His foster daughter was not eligible as a liver donor as she was not yet 18 years old, which is the minimum legal age for organ donation. Three unrelated persons volunteered but were unsuitable. Three weeks later, he was transplanted with a deceased-donor graft.

Event 10

A 23-year-old woman suffered from familial amyloidotic polyneuropathy. She had severe heart failure that rendered isolated liver transplantation not feasible. She underwent combined heart-liver transplantation. Her native liver was transplanted to a 61-year-old man with Child-Pugh C cirrhosis. This was the first combined heart-liver transplantation in Asia.

Event 11

A 39-year-old male customs officer suffered injury on duty with severe blunt injury to his liver, and went into liver failure. A 40-year-old male customs officer who had never met the patient volunteered as a liver donor and saved the patient.

Event 12

A 61-year-old man with acute-on-chronic liver failure was in grade-4 hepatic encephalopathy. A 2-year-old brain-dead donor was available. The man underwent DDLT with a graft with a volume that was only 35% of his standard liver volume.

Event 13

An 8-month-old baby boy suffered from biliary atresia with a failed Kasai operation. He developed intractable ascites and warranted liver transplantation. The family appealed for a liver donation to save the child. His father underwent donor workup but had a lesion in the left kidney, suggestive of renal cell carcinoma. Eventually, the patient received the left lateral section of his mother's liver.

Categories of key liver transplant events

Celebrity hero influence

The donors in events 1 and 2 set examples of life-saving altruistic acts. Events 7 (cyclist) and 8 (ballet school principal) were examples of transforming tragedy into charity, which ultimately influenced the public. The two victims were subjects in the news 1 day before family consent was obtained for organ donation. Their donations were considered devotion to helping others.

The influence of a public hero is huge, as in the cornea donation by the late South Korean Cardinal Stephen Kim. The number of cornea donor card signers rose by nearly 40-fold within a few days of his death.⁵ A similar influence was noted after event 11 (customs officer). The case attracted widespread attention and encouraged many people to sign up as organ donors (data from Department of Health).

Medical success

Events 3 (donor interchange), 6 (graft-sharing with Taiwan), 10 (combined transplantation), and 12 (paediatric donor) featured medical success which boosted public confidence.

Donor interchange in event 3 was the first of its kind in Hong Kong,³ and the coverage by the mass media was wide, although three such cases had been reported in Korea.⁶ A potentially futile effort eventually bore fruit, and the simultaneous

operations proved the expertise. Public confidence in the liver transplant service of Hong Kong was strengthened.

Sharing of grafts between Hong Kong and Taiwan represented the commitment of the two jurisdictions to maximise use of scarce organs for transplantation and demonstrated good outcomes.

Emotional response

The patients' appeal for liver donation in events 4 (porphyria patient), 5 (acute-on-chronic liver failure), 9 (foster father), and 13 (8-month-old baby) aroused much sympathy in the public. A young transplant candidate desperately longing for a graft often attracts more attention. The case of the foster father with a caring daughter, yet to reach the legal age for organ donation also touched the public.

Singapore has the opt-out system, but its efficacy is unremarkable. Despite the increase in the number of potential donors by over 50-fold (to 3 million), the number of DDODs in general or of the liver in particular has not increased significantly after the implementation of this policy. Despite the increase in the number of referrals of brain-dead potential organ donors, the actualisation rate is very low (8.8%) and varies tremendously among hospitals (0% to 56.6%).

Over half of the cases of non-actualisation were due to no valid reason⁷ and marginal livers were rejected.⁸ Aggressive organ donor management can increase the number of transplanted organs and prevent loss of donors due to medical failure.⁹ Logistic measures like Donor Action¹⁰ may reduce wastage. On the other hand, the opt-out system has been accused of being totalitarian, because it relies on the 'presumed consent' principle, which is inconsistent with the freedom of a democratic society.¹¹

The impact of mass media coverage of key transplantation events undeniably affects people's attitudes towards organ donation. A liver transplant service with accountability and good outcomes under the spotlight of the media helps to raise the rate of DDOD.

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