In the news

DRUG-FREE AFTER TRANSPLANTATION

Most transplant recipients need to take immunosuppressive drugs for the rest of their lives to prevent rejection, but these drugs are expensive and have severe side effects. Three studies in *The New England Journal of Medicine* (24 January 2008) provide “hope these patients [transplant recipients] will be off drugs for the rest of their lives,” according to David Sachs, lead author of one of the papers (*Los Angeles Times*, 26 January 2008).

Animal studies have shown that infusing donor blood stem cells with the transplant can induce a state of chimerism in the recipient immune system that prevents rejection. Sachs has now confirmed this technique in four of five patients who received mismatched kidney transplants together with donor bone-marrow infusion. These patients have been off immunosuppressive drugs for 2–5 years in what Sachs claims is “the first time that tolerance to a series of mismatched transplants has been intentionally and successfully induced” (*Reuters*, 23 January 2008).

Samuel Strober and colleagues achieved a similar result in Larry Kowalski, who received a new kidney and an infusion of stem-cell-enriched blood from his brother. As Kowalski himself put it, “my immune system contains half my brother’s immune cells and half of my own. It’s enough that my body thinks my brother’s kidney is mine” (*ScienceDaily*, 24 January 2008). The third study reported the case of a 9-year-old liver-transplant recipient who was able to discontinue her immunosuppressant regime after stem cells in the donor liver seeded her bone marrow.

However, researchers have cautioned that only the healthiest patients will be able to withstand the conditioning regimens that allow donor stem cells to engraft (*The Boston Globe*, 24 January 2008). John Scandling, the kidney-transplant specialist who treated Kowalski, concedes “we still have a long way to go” (*ScienceDaily*).

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