

pharmaceutical industry, offer an alternative approach to monitoring outcomes.

In the United States, transplantation centers are mandated to enter patient information into a database maintained by the Organ Procurement and Transplantation Network (OPTN). The reliability of this registry with regard to major transplantation outcomes appears to be excellent.³ To obtain 5-year follow-up data on the patients in our study, records for each U.S.-enrolled patient¹ were matched with records in the OPTN database for birth date, transplantation date, sex, and transplantation center. Matches were verified on the basis of recipient and donor HLAs and blood groups and cross-referenced with death records from the Social Security Administration.

All 183 U.S. patients from the study were matched to their OPTN records.¹ There were no differences in baseline demographic characteristics between the U.S. patients who received rabbit antithymocyte globulin and those who received basiliximab (Table 1). The 5-year incidences of acute rejection and of acute rejection requiring antibody treatment were lower among patients treated with rabbit antithymocyte globulin than among those treated with basiliximab (15% vs. 27%, $P=0.03$; and 3% vs. 12%, $P=0.05$). Patients treated with rabbit antithymocyte globulin also had a lower incidence of the composite end point of acute rejection, graft loss, and death at 5 years (37% vs. 51%, $P=0.04$). The incidence of

treated cytomegalovirus infection remained lower in the group treated with rabbit antithymocyte globulin (7% vs. 17%, $P=0.02$), and the incidence of cancer did not differ significantly between the two groups.

Thus, the benefits and safety of rabbit antithymocyte globulin over basiliximab for induction therapy were sustained and stable throughout a period of 5 years after transplantation. This strategy is a cost-efficient way to monitor long-term efficacy and safety of patients in clinical studies for which registry data are available and may have implications for other fields.

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Problems Associated with the Use of Thyrogen in Patients with a Thyroid Gland

TO THE EDITOR: Juweid et al. (September 18 issue)¹ describe the administration of thyrotropin alfa (Thyrogen) to a patient with thyroid cancer who still has a thyroid gland. Genzyme, the manufacturer of Thyrogen, wants to point out that all regulatory bodies, including the Food and Drug Administration, restrict the use of 0.9-mg intramuscular injections of the drug on two consecutive days to patients who have already had a total or near-total thyroidectomy. This is because of substantial transient thyroid swelling and severe hyperthyroidism that could result in some patients with a thyroid

gland who receive a large dose of Thyrogen. Such effects have been reported in normal persons who received one intramuscular injection of 0.9 mg of Thyrogen.² In addition, the death of an elderly woman with a multinodular goiter was reported after the intramuscular injection of 0.3 mg of Thyrogen on two consecutive days, followed by 75 mCi of iodine-131.³ The death of a patient with thyroid cancer who had not undergone thyroidectomy and who received four intramuscular injections of Thyrogen during a period of several days is described in the package insert and elsewhere.⁴

More than 300,000 patients with thyroid cancer have used Thyrogen safely, but those patients had previously undergone thyroidectomy.

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THE AUTHORS REPLY: In response to Dr. Magner's concerns about critical patient safety issues, we want to emphasize that our goal was to diagnose the unknown primary tumor as being of thyroid origin.¹ The patient underwent prescreening with a thyroid scan to ensure that there was not a large thyroid-tissue burden. The scan confirmed that the thyroid had largely been replaced by the tumor, with only a small amount of normal thyroid tissue left. Only then did we proceed with thyrotropin alfa (Thyrogen), which was administered in a hospital, with careful monitoring of

thyroid function before and after administration. We respectfully point out that the Thyrogen package insert does not indicate that use of the drug for diagnostic or therapeutic purposes in patients who have not had a thyroidectomy is an absolute or even a relative contraindication. Use of Thyrogen is relatively common, not only for diagnostic purposes but also for use with radioiodine therapy in patients with large, occasionally toxic, nodular goiters and for use in testing with volunteers who have an intact, normal thyroid.²⁻⁴ We hope that with proper cautionary guidelines, our approach can be seen as an acceptable use of Thyrogen, with the anticipation that it may offer a course of treatment for patients with poorly differentiated thyroid cancers and very limited treatment options.

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