homogenates from the Gunn rats used by the said authors were tested for enzyme activity utilizing the *o*-aminophenol acceptor. This would have indicated that their microsomal preparations were good and that their assay system was working.

Furthermore, Matas *et al.* (3) have shown a decrease in the serum bilirubin of homozygous Gunn rats after the infusion into the portal vein of isolated hepatocytes from the heterozygous Gunn rats. This finding essentially confirms our previous observations (4). Unfortunately, however, no reference to this report was made in the publication of Van Houwelingen and Arias.

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ADDENDUM

Since we submitted a letter to you on April 29, 1977 in response to a paper by Van Houwelingen and Arias we noted two publications in support of our initial observations. These references are as follows:

Groth, C. G., Arborgh, B., Bjorken, C., Sundberg, B., and Lundgren, G.: Correction of hyperbilirubinemia in the glucuronyl transferase-deficient rat by intraportal hepatocyte transplantation. Transplant. Proc., *9:* 313 (1977).
Sutherland, D. E. R., Matas, A. J., Steffes, M. W., Simmons, R. L., and Najarian, J. S.: Transplantation of liver cells in an animal model of congenital enzyme deficiency disease. Transplant. Proc., *9:* 317 (1977).

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Letter to the Editor: Reply to Drs. Mukherjee and Krasner

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Dr. Van Houwelingen and I reproduced, to the best of our ability and knowledge, the experiments published by Mukherjee and Krasner (*Science*, 1973). To this end, we appreciate Dr. Krasner's participation in the surgical procedure, including anesthesia. The rats were all homozygous (jj) Gunn rats which were provided either by Dr. Krasner or the Einstein Animal Institute. Each Gunn rat had unconjugated hyperbilirubinemia and no measurable UDP-glucuronyl transferase in liver preparations with bilirubin as a substrate.

Loss of "microsomal viability" in our assay system is unlikely. 1) Microsomal preparations from normal and jj rats were treated identically; the former had abundant bilirubin glucuronidation and glucosidation, and the latter had none. 2) Bile duct cannulation of transplant recipient rats failed to reveal bilirubin glucuronide (or other major conjugates). This is the most sensitive index of bilirubin conjugation *in vivo*.

Presentation of data demonstrating that anesthesia time (10 min versus 15–20 Min) is critical for successful implantation of liver tissue and for UDP-glucuronyl transferase "induction" is the next reasonable step to be taken.

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