TransactionNumber: 285043

Call #:

Location: falk

Article Information

Journal Title: Transplantation proceedings

Volume: 23 **Issue:** 5

Month/Year: Oct 1991 **Pages:** 2657

Article Author: Detroz

Article Title: Organ transplantation with undetected donor neoplasm.

PMID: 1926521

Loan Information

Loan Title:

Loan Author:

Date:

Imprint:

Customer Information

Askren, Linda
Pitt School of Medicine
UPMC-Montefiore
3459 5th Ave
Pittsburgh, PA 15213
4126472067
laskren@pitt.edu

Instructions:

Type of Request: Regular
How to Notify: Hold for Pickup
Shipping Options:

Organ Transplantation With Undetected Donor Neoplasm

B. Detroz, O. Detry, M. D'Silva, J. Pirenne, J.O. Defraigne, M. Meurisse, P. Honore, and N. Jacquet

ORGAN transplantation is a frequently performed procedure which will occupy an increasingly prominent position in the future. Nowadays, the surgical management, indications, and complications are better understood; however, one serious problem that remains is the transferral of malignant tumor foci through organ grafting. Unquestionably, there are donor cases where the diagnosis was not entertained. Up until 1987, the Cincinnati Transplant Tumor Registry (CTTR) registered 113 patients who were transplanted with organs from cancerous donors.[1] Transplanted malignancy developed in 52 recipients (46%). Most of these occurred in the early years of transplantation, when the risk of cancer transfer during transplantation was not yet fully appreciated. Despite rigorous medical donor selection, sporadic cases of organ transplants bearing cancer are still encountered.

We describe three such cases encountered in our department: one renal and two orthotopic liver transplantations. The renal and one liver graft were explanted from the same donor, a 30-year-old female who died from atraumatic cerebral hemorrhage. Necropsy, performed on the day following explantation, demonstrated widespread choriocarcinoma. The kidney recipient was immediately nephrectomized, immunosuppression was discontinued, and immunity was stimulated with Interferon. The kidney showed multiple metastatic foci of choriocarcinoma, and the recipient's serum level of β-HCG rose rapidly. Actinomycin D and VP16 chemotherapy was initiated, with excellent results. After 2 years, the β-HCG level was normal, and the patient currently awaits transplantation. The liver recipient was not explanted because of the patient's poor general status and coexistent cardiopulmonary failure. As β-HCG levels increased, he received two doses of Ledertrexate. He died on day 39 from cardiopulmonary complications. Necropsy revealed a hemorrhagic choriocarcinoma metastasis in the right lobe of the liver.

The third patient, a liver recipient, was transplanted with a liver harvested outside our institution. Periaortic adenopathy was noted during explantation, and autopsy revealed a hitherto undiagnosed cervix carcinoma with lymphatic and pulmonary metastases. The recipient was retransplanted soon after, and histological search for metastatic foci from the primary proved negative. No postoperative chemotherapy was instituted and, at 1 year posttransplantation, the patient remains free of metastatic disease.

The transplanted organ harboring occult metastasis/primary foci provides a conducive environment for growth and dissemination in the face of adjuvant immunosuppression, which is indispensable in this setting. This "fertile field," as described by Harvey and Fox,[2] is of great importance in the field of immunomodulation and in the poor general status of the patient.

Prevention still remains the optimal management of transferred malignancy. Rigorous selection of donors is the best way to accomplish this: donors with a history of cancer, except for a primary localized intracerebral tumor, must be ruled out; full laparotomy with meticulous abdominal examination and lung examination during heart harvesting must be achieved; immediate histologic analysis of any suspicious lesion must be available; compulsory necropsy must be available within 24 hours after the harvesting procedure; and intraoperative ultrasound examination should be used to detect unsuspected parenchymal lesions, as haemorrhage is frequent in cerebral metastases of systemic malignancy, especially for choriocarcinoma.[1,3] Careful exploration must be performed in the child-bearing age group of female donors dying from cerebral hemorrhage.

However, all those precautions cannot prevent all transfers of infraclinical cancer lesions. Suspected "tumor-bearing" kidney grafts must be removed, immunosuppressive treatment stopped, and specific chemotherapy initiated. Specific tumor marker levels could be monitored frequently in follow-up. Liver recipients must be retransplanted as soon as another liver graft is available. During the waiting period for retransplantation, in an effort to reduce the tumor cell load, immunosuppression must be tapered and antineoplastic chemotherapy begun. However, the balance between graft tolerance and tumor cell lysis remains undetermined, and long-term survival data of individuals transplanted with cancer-bearing grafts are not yet available.[4,5]

REFERENCES

1. Penn I: Transplant Proc 20:739, 1988
2. Haevey L, Fox M: J Clin Pathol 34:116, 1980
3. Baquero A, Penn I, Bannett A, et al: Transplant Proc 20:776, 1988
4. Marsh JW, et al: Transplantation 44:449, 1987
5. Baquero A, Foote J, Kottle S, et al: Transplant Proc 20:98, 1988

From the Department of Abdominal Surgery and Transplantation, Liege, Belgium.

Address reprint requests to Dr B. Detroz, Secretariat de Chirurgie Abdominale, Service Prof Jacquet, Chu Sart-Tilman B35, 4000 Liege, Belgium.

0041-1345/91/$3.00/+0