



## What Is the Risk of Transferral of an Undetected Neoplasm During Organ Transplantation?

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**T**ODAY, donor organ shortage has led to an increased waiting period before transplantation and has promoted an increasing number of deaths among the patients awaiting transplantation. One of the solutions to increase the donor pool is to accept "suboptimal" donors who would not have otherwise been suitable for organ donation only a few years ago. This policy of accepting older or suboptimal donors should promote an increase in the risk of accepting donors with infraclinic malignancies, thus an increase in the risk of transferral of undetected malignancies from the donor to the recipient. In our department in 1991, two recipients developed metastases of a misdiagnosed choriocarcinoma that had caused the death of the donor by cerebral hemorrhage of nontraumatic origin.<sup>1</sup> These dire complications commanded us a severe policy of malignancy detection during organ procurements, and we report the results of this policy in this article.

### MATERIALS AND METHODS

From January 1993 to September 1996, 83 multiorgan procurements were made in the Department of Surgery and Transplantation of the University Hospital of Liège. The mean age of these organ donors was 31 years (range, 3 to 69 years). During these procurements, we carefully looked for any evidence of nondiagnosed malignancy. Palpation of the abdominal organs and the lungs was undertaken, immediate frozen section of any suspect lesion was obtained, and peroperative echography of the liver and the kidney was performed in selected cases.

During the same period, we received 57 kidneys obtained from donors whose mean age was 40 years from the Eurotransplant organization. Every organ was carefully inspected and the adipose tissue surrounding these kidneys was completely removed. As in the procurements, immediate frozen section of any suspect lesion was obtained, and peroperative echography of the liver and the kidney was performed in selected cases.

### RESULTS

Among these 83 multiorgan procurements, 1 undiagnosed malignant tumor was found in a 47-year-old female donor who died from spontaneous cerebral hemorrhage. During abdominal dissection and after removal of the heart,

a 5-cm nodule was detected in the superior pole of the right kidney. Immediate frozen section revealed a renal cell carcinoma. The liver and both kidneys were discarded for transplantation. However, the heart graft had already been transplanted at the time of the pathological diagnosis. This organ was not removed, and the recipient was free of metastasis after a follow-up of 6 months. Moreover, three renal cell carcinomas (2 mm, 4 mm, 2 cm) were diagnosed in the received kidneys that were obtained from 18-, 35- and 55-year-old donors, respectively. These organs were also discarded for transplantation. During the same period, no transferral of malignancy from the organ donor to the recipient was observed.

### DISCUSSION

The results of this policy showed that infraclinic malignancy is not a rare event in organ donors. As shown by the multiple discoveries of renal cell carcinoma in kidneys obtained in asymptomatic young patients, malignancy should be suspected during every multiorgan harvesting. However, prevention of this complication may be obtained by a strict policy in order to detect any possible lesion.

In every case in our study, renal cell carcinoma was the diagnosed malignancy. Renal cell carcinoma accounts for 2% of all cancers, with a higher rate in Western Countries.<sup>2</sup> Small and localized tumors rarely produce symptoms, and the diagnosis is usually delayed until the disease is advanced.<sup>2</sup> This prolonged asymptomatic evolution may in part contribute to the higher incidence of renal cell carcinoma of our study. We believe that both kidneys obtained from patients with renal cell carcinoma must be discarded for transplantation because of the risk of bilateral development of this tumor and the high risk of recurrence after partial nephrectomy.<sup>2</sup> Accidental transplantation of malignancy

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nant tumor may occur in patients without any evidence of immune deficiency,<sup>3</sup> and the risk of recurrence is much higher in organ recipients whose immunosuppressive treatment is very effective during the first weeks after transplantation. However, in several cases of renal cell carcinoma diagnosed during the harvesting, wide excision of the tumor and transplantation of the kidney were previously successfully performed.<sup>4</sup>

## REFERENCES

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