

# Liver Graft Procurement in Donors with Central Nervous System Cancers

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## TO THE EDITORS:

The recent study by Kashyap et al.<sup>1</sup> confirmed with a large, single-center experience that donors with central nervous system (CNS) tumors should be proposed for liver donation, as we recently advocated.<sup>2</sup> In their series of 42 liver donors with CNS tumors and a mean follow-up of 29 months, 20 donors had grade IV astrocytoma or glioblastoma multiforme, and none of the recipients developed recurrence of these aggressive tumors. Kashyap et al. observed 1 case of metastatic recurrence of the donor CNS cancer, which was a juvenile pilocytic astrocytoma of the cervical spinal cord.

The real risk of CNS cancer transmission with liver transplantation is not known. It may vary according to the aggressiveness of the CNS cancer (histology), the previous treatments (radiotherapy, open skull surgery, and shunting), and the length of the delay between the diagnosis of the CNS cancer and brain death.<sup>3</sup> It may also vary according to the recipient's immunosuppression, because calcineurin inhibitors have demonstrated an effect on cancerous cell activation.<sup>4</sup> The transmission risk has been largely overestimated by the Israel Penn International Transplant Tumor Registry (IPITTR). The IPITTR estimated this risk to be as high as 40% with grade III/IV astrocytoma.<sup>5</sup> This overestimation is related to the nature of this voluntary and retrospective registry. The transmission risk should be scientifically determined from the ratio of the number of patients who have experienced transmission to the entire population of patients at risk, and it is likely that the IPITTR lacks important information on the denominator of this ratio.<sup>2</sup> The IPITTR and isolated case reports<sup>6,7</sup> are responsible for the negative reputation of donors with CNS cancers.<sup>8</sup>

Prospective, multicenter registries<sup>9</sup> and some large, single-center experiences, such as Kashyap et al.'s study,<sup>1</sup> have demonstrated that the risk of CNS cancer transmission should be evaluated as 0% to 3%, and these data have to be better defined by further prospective, large-scale registries.<sup>3</sup> In comparison with the actual, unacceptable death rates on the

liver waiting lists, which have led to the development of living related liver transplantation and its 0.5% donor mortality risk<sup>10</sup> and transplant tourism,<sup>11</sup> this risk of CNS cancer transmission with liver transplantation may seem acceptable, especially for fully informed patients who have a high risk of death on the waiting lists. Organ transplantation carries a small but real risk of occult cancer transmission anyway.<sup>12,13</sup>

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