

# The DTAC News



*From the Ad Hoc Disease Transmission Advisory Committee*

THIRD EDITION

OCTOBER, 2011

Welcome to the 3<sup>rd</sup> edition of The DTAC News. The Ad Hoc Disease Transmission Advisory Committee, DTAC, has continued to act in its primary role of reviewing cases reported to the OPTN in order to determine whether the transmission of disease from a donor to one or more recipients has occurred. In 2010, 157 cases were reviewed by the full committee and in 2011 we are on pace to surpass this number. The committee will continue to use information obtained from the review of aggregate case data to educate the transplant community and inform policy development.

The DTAC has worked to expand and share our understanding of donor-derived disease transmission through its contribution to the peer reviewed literature as well as at national forums such as the American Transplant Congress (ATC). Committee members presented a number of abstracts and posters in Philadelphia last Spring. In this edition of the DTAC newsletter we will highlight some of the committee's academic contributions and how the information and knowledge gained can improve the care of our transplant patient population.

We hope you enjoy the newsletter and welcome feedback regarding what YOU would like to see in future issues.

*Afshin Ehsan, MD  
Editor*

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## IMPORTANT CHANGES TO HOW REPORTED POTENTIAL TRANSMISSION EVENTS ARE MANAGED

As of October 1, 2011, potential donor-derived disease transmission reporting and follow up is now a little bit easier! HRSA and the CDC recently established a working agreement to better streamline donor and recipient follow-up related to [nationally notifiable infectious](#) conditions and other diseases of public health importance. When such events are reported, members will now receive calls from CDC directly, and UNOS staff will receive this information from CDC without having to make similar calls.

[Read the complete memo](#), which includes Web site references for more information.

If you have questions, please contact Shandie Covington, UNOS Staff Liaison to the DTAC, at [shandie.covington@unos.org](mailto:shandie.covington@unos.org)

## DONOR-DERIVED DISEASE TRANSMISSIONS: 2010

The majority of cases reported to the DTAC are related to potential transmission of infections, although there have been increasing numbers of potential transmission of malignancies from donor to recipient(s). These reports were usually related to transplants that occurred in the same year; however, some reports are related to transplants that have taken place in earlier years. Of the 157 potential donor-derived transmission events (PDDTE) reported in 2010, 116 were related to infections and 41 to malignancies.

Twenty-five recipients developed infections related to donor-derived transmission events; 7 of these recipients expired from their infection. Bacteria was the most commonly reported potential pathogen and included pyogenic bacteria (e.g., Staphylococci, Gram negative rods), mycobacteria (including tuberculosis), and syphilis. Although fungi, parasites/protozoa, and viruses were less commonly reported as PDDTE, these reports were more likely to be associated with proven or probable transmission events. Some of these transmitted pathogens included Strongyloides, Coccidioides, Cryptococcus, Balamuthia, Hepatitis C, and West Nile Virus. Notably not all recipients of donors proven to transmit infection to at least one recipient developed donor derived infections. In some cases antimicrobial agents prevented the development of infection in these unaffected recipients.

Twelve recipients developed donor-derived malignancies. Although renal cell carcinomas were most commonly reported, often related to discovery in the donor at the time of procurement, the more commonly transmitted malignancies included melanoma and pulmonary or hepatobiliary malignancies. Malignancy related deaths occurred in 7 of the 12 affected recipients.

Since the inception of the DTAC, awareness of the potential for donor-derived transmission events has risen and each year the number of reports has increased, allowing for the development of an enhanced understanding of circumstances that are more likely to be associated with donor derived transmissions that may affect transplant outcomes. Unfortunately, there are still some gaps in the reporting system. Some Donor Service Areas (DSA) and regions may be underreporting these events, perhaps related to failure of centers to appreciate the potential association of recipient infections and malignancies to donor

transmission. The DTAC encourages centers and DSAs to consider the possibility of donor derived transmissions when evaluating recipient outcomes and report possible transmission events (with the exception of those that were expected, such as CMV or EBV) to the Improving Patient Safety portal.

*Source:*

Donor-Derived Transmission Events in 2010: A Report of the OPTN Ad Hoc Disease Transmission Advisory Committee (DTAC). E. Blumberg, et al. Abstract #1475. American Journal of Transplantation, 11:Supplement 2: 458.

*Emily Blumberg, MD  
DTAC Chair*

## **NEWS YOU CAN USE – DTAC GUIDANCE DOCUMENTS NOW AVAILABLE**

Confused about what OPTN Policy 4.5 really requires? Don't know whether or not you should report that positive culture result to the OPTN?

Did you know that the OPTN/UNOS Board of Directors approved a guidance document created by the DTAC to assist members in knowing when to report a potential donor-derived disease transmission event to the Improving Patient Safety Portal? This document, approved in June 2011, is available here, and will soon appear on the OPTN website as well. It makes a great staff training tool or resource.

- [Reporting Potential Donor-Derived Disease Transmission Events](#)

Is your OPO continuing to screen potential donors for HTLV-1? A number of OPOs still are, and there are questions regarding what confirmatory testing is appropriate when a positive screening result is received on a donor. The DTAC has prepared a guidance document to help both OPOs and transplant programs working to address positive HTLV-1 results. This document, approved in June 2011, is available here, and will soon appear on the OPTN website as well.

- [HTLV-1 Screening and Confirmation in Potential Donors and Reporting Potential HTLV-1 Infection](#)

## **DONOR-TRANSMITTED MALIGNANCIES IN ORGAN TRANSPLANTATION: ASSESSMENT OF CLINICAL RISK**

The DTAC's Malignancy Subcommittee recently published the results of its work creating a broad approach to assessing donor tumor transmission risk. Subcommittee members included representatives from transplant surgery, medical oncology, pathology, nephrology and infectious diseases as well as UNOS staff.

The Subcommittee defined tumor transmission risk categories and populated these with a number of specific individual tumor types. Suggested clinical use is provided for each category, although medical judgment remains the final arbiter. Benign tumors, including those with a risk of developing into malignancy, are discussed. Donors with a past history of

cancer are also considered. Supplemental online tables deal in detail with transmission risk of central nervous system (CNS) tumors, and the literature related to transmissions of individual types of CNS tumors is summarized. Reports related to resection of donor renal cell carcinoma prior to kidney transplant are also reviewed in tabular form.

It is the hope of the DTAC that such efforts will serve to disseminate current knowledge of this topic and encourage the transplant community to objectively assess the clinical situation when individuals who may have or have previously had tumors have designated their desire to be organ donors.

*To read the full manuscript, please see:*

Nalesnik, M. A., Woodle, E. S., DiMaio, J. M., Vasudev, B., Teperman, L. W., Covington, S., Taranto, S., Gockerman, J. P., Shapiro, R., Sharma, V., Swinnen, L. J., Yoshida, A. and Ison, M. G. (2011), Donor-Transmitted Malignancies in Organ Transplantation: Assessment of Clinical Risk. *American Journal of Transplantation*, 11: 1140–1147. doi: 10.1111/j.1600-6143.2011.03565.x

*Michael Nalesnik  
Malignancy Subcommittee Chair*

## **COMMUNICATION GAPS ASSOCIATED WITH DONOR-DERIVED INFECTIONS**

The detection and management of potential donor derived infections is challenging, in part due to the complexity of communications between diverse labs, OPOs and recipient transplant centers. Through review of potential donor-derived infection transmission events reported to the DTAC over an 18 month period, the committee assessed if communication delays or errors occur in the reporting and management of donor derived infections and if these are associated with preventable adverse events in recipients.

Of 56 evaluable infection events (involving 169 recipients) reviewed, 18 events (involving 49 recipients) were associated with delays or errors in communication. Of these 18 occurrences, 12 (involving 20 recipients) were associated with an adverse outcome, including 6 deaths. The most common communication gaps included delays in communication of a suspected donor-derived infection between transplant centers, OPOs, and the DTAC, failure of laboratories to relay donor results, incomplete test results communicated by the OPO to transplant centers, and clerical errors. Conversely, effective communication allowed the opportunity for timely intervention that either minimized or averted recipient infection. The review of these results led to changes in OPTN policy regarding communication surrounding potential donor-derived infections and enhanced educational efforts targeting all involved parties to improve the safety of the donation process.

*Source:*

Communication Gaps Associated with Donor-Derived Infections (DDIs): A Report of the OPTN Ad Hoc Disease Transmission Advisory Committee (DTAC). R. Miller, et al. Abstract #571. *American Journal of Transplantation*, 11: Supplement 2: 200.

*Rachel Miller, MD*

## METACHRONOUS CANCER AND TRANSPLANT OUTCOMES

The consequences of donor cancers that existed either before transplant (deceased donors with a positive cancer history) or after transplant (living donors who developed tumors after organ donation) were reviewed by the DTAC. Recipients of kidneys or livers from donors with a history of cancer had slightly reduced 3 year Kaplan-Meier survival compared to recipients of organs from donors without such a history (86% vs. 89% for kidney, 76% vs. 80% for liver). Both of these figures were higher than the survival in the case of recipient history of cancer (82% for kidney and 74% for liver). No increase in recipient cancer was seen when there was

a donor history of cancer, but there was an increase when the recipient had a positive cancer history.

An additional twenty-five recipients received organs from living donors who developed cancers between 6 months and 7.5 years following donation. No evidence of donor-transmitted malignancy has been observed in any of these recipients to date.

Continued assessments of similar data reported by our members will continue to add additional evidence to help support clinical decision-making in these circumstances.

### *Source:*

Metachronous Donor Cancer and Transplant Outcomes. M.A. Nalesnik, et al. Abstract #1482. American Journal of Transplantation, 11:Supplement 2: 460.

*Michael Nalesnik, MD*

## CNS INFECTIONS IN ORGAN DONORS

Transmission of infections from donors to recipients often makes the headlines of lay press. Among these HIV often garners the widest press. However, central nervous system (CNS) infections, such as Rabies and West Nile Virus, have also received a fair amount of attention.

For calendar year 2010, there were 18 (11.5%) proven, donor-derived cases. Among these 18 cases, 8 were malignancies, 7 were non-CNS infections, and 3 were CNS infections. These 3 CNS infections in donors resulted in infections in 6 recipients, 2 of whom died. In response to these events, the DTAC formed the Encephalitis Subcommittee to review these cases and develop a guidance document meant to aid both OPOs and transplant programs in considering these donors. The subcommittee reviewed all reports since 2008 to better understand the risk donor CNS infection may represent to potential recipients.

Initially, reports to the DTAC were screened for organisms which could potentially be associated with a CNS infection, (i.e. West Nile Virus, tuberculosis, meningococcus, *Cryptococcus*), or cases where the concern was explicitly a CNS infection in either the donor or recipient. Of the 386 total cases reviewed by DTAC from January 2008 through September 2010, there were 90 which met this screening criteria (including: agents known to cause encephalitis or meningitis, evidence of encephalitis or meningitis in the donor, and whether infection was transmitted to any recipients). Among these 90 screened cases, 14 were associated with a proven transmission, and 4 of these 14 proven transmissions had evidence of CNS infections in the donors.

While CNS infections seem to cause a disproportionate percentage of proven transmissions, this does not fully illustrate the potential threat a CNS infection poses to recipients. We identified and reviewed 13 reports within this group of 90 screened donors with a CNS infection:

- Four of the 13 were identified pre-procurement and did not result in transmission to any of the donors.
- Two other donors had bacterial CNS infections where recipient antibiotics may have interrupted transmission.
- Two donors with viral CNS infections and no transmission to recipients.
- Five donors where the CNS infection was not recognized pre-procurement. These five donors transmitted disease to nine (69%) of 13 recipients, 7 of whom also developed a CNS infection. Three of the nine eventually died. The organisms identified were *Balamuthia* (a free-living amoeba), *Cryptococcus*, and West Nile Virus. The causes of death listed for the five transmitting donors were stroke/intracranial hemorrhage, anoxia, and acute demyelinating encephalomyelitis.

While the reports described above are disheartening it is important for these reports to be placed in perspective. Therefore, the DTAC examined stated causes of death among all deceased donors recovered between 2006 – 2010. In this time period there were 40,058 deceased donors. The reported causes of death were: anoxia (21.0%), CVA (40.2%), Head Trauma (35.6%), CNS Tumor (0.6%), and Other (1067, 2.7%). Among the other category,

153 (14.3% of “others”, 0.4% of all donors) had CNS infections and nine were listed as having encephalitis. The DTAC is currently examining whether any of these donors were eventually reported to the committee as a possible transmission case in order to determine whether there may be distinguishing characteristics that may identify donors capable of transmitting pathogens associated with CNS infection to recipients.

DTAC is working to identify donor criteria which may indicate a CNS infection at high-risk for transmitting to recipients. Preliminary data suggest that potential donors who present with a fever and an undefined CNS process should be evaluated for possible encephalitis or meningitis. If a CNS infection is suspected, discussion of the case with transplant infectious diseases expert prior to transplantation may be warranted.

*Source:*

Infectious Disease Transmissions from Organ Donors With Meningitis or Encephalitis. M. Lyon et al. Abstract # 572. American Journal of Transplantation, 11:Supplement 2: 200.

*G. Marshall Lyon, MD, MMSc  
Encephalitis Subcommittee Chair*

## **ADDITIONAL INFORMATION**

If you have questions related to this newsletter, the DTAC, or you are interested in becoming a member of this committee, please contact Shandie Covington at [shandie.covington@unos.org](mailto:shandie.covington@unos.org)

All information and updates regarding your OPO or transplant program's Patient Safety Contact information should be submitted to [patientsafetycontact@unos.org](mailto:patientsafetycontact@unos.org) . If you have questions regarding your center's plans, please use this email box as a point of contact.