B323

Educational Needs Assessment of US Healthcare Practitioners Managing Cytomegalovirus Infection in Solid Organ Transplant Recipients: Results From a Survey Using a Simulated Case Scenario

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INTRODUCTION

- Cytomegalovirus (CMV) infection is a serious post–solid organ transplant (SOT) complication associated with mortality and graft dysfunction/rejection.[1]
- A major challenge of post-SOT CMV treatment is balancing immunosuppression with treating CMV infection.[2]
- With the recent advancements in anti-CMV therapies (eg, maribavir), there exists a need for healthcare practitioners (HCPs) to be educated on current post-SOT CMV management strategies.

OBJECTIVE

- To identify the unmet educational needs related to post-SOT CMV infection management.

METHODS

- The current knowledge of US HCPs regarding CMV treatment, their awareness of emerging therapies, and their information-seeking patterns, including continuing medical education (CME), were assessed using a survey based on a simulated SOT case study.
- A representative from each HCP category (medical/surgical transplant specialists, infectious disease clinicians [IDs], pharmacists) tested the survey, which was subsequently distributed between June and July 2022 to US HCPs treating at least 1 SOT recipient per month.
- Descriptive data analysis and open-ended coding classification were used.

RESULTS

Clinician sample demographics

- Survey respondents included 121 transplant specialists, 110 IDs, and 26 pharmacists (**Table 1**).

Table 1. Respondent demographics

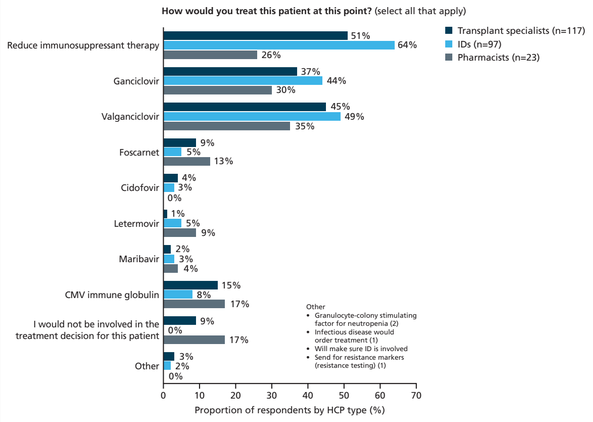
Characteristic	Transplant specialists[a] (n=121)	IDs (n=110)	Pharmacists (n=26)
Role			
Physician	77%	93%	–
Nurse practitioner/physician assistant	23%	7%	–
Pharmacist	–	–	100%
Years in practice after training (mean)	17	13	19
Years working with transplant patients (mean)	16	14	12
Practice location			
Community-based	36%	17%	46%
Academic-based	64%	83%	54%
Number of patients seen per week (mean)	78	61	85
Number of patients who have SOTs seen per month (mean)	51	30	15
Number of patients who have HSCTs seen per month (mean)	–	14	27

[a]Transplant specialists include transplant surgeons (n=48) and internal medicine clinicians (n=73) who manage organ transplants.
HSCT, hematopoietic stem cell transplant.

Initial preferred treatment for CMV infection

- **Case:** A 50-year-old man undergoes a kidney transplant for end-stage renal disease secondary to membranous nephropathy. He is CMV-seronegative at the time of the transplant and receives a CMV-seropositive kidney (or other organ, based on specialty). The patient is started on immunosuppression and prophylactic valganciclovir treatment, which is continued for six months after transplant, and monitored weekly for CMV viral loads. Two months after stopping valganciclovir, he develops a fever of 101°F and reports feeling fatigued. He undergoes a clinical and laboratory evaluation for these symptoms that reveals a CMV viral load of 15,000 IU/mL, mildly increased aspartate aminotransferase and alanine aminotransferase, a white blood cell count of 0.5 x 10^9/L, and a creatinine level of 0.9 mg/dL. He is diagnosed with CMV syndrome.
- **Recorded responses:** HCPs varied in their approach to reducing immunosuppressant therapy (**Figure 1**).

Figure 1. Initial preferred treatment for CMV infection by HCP type post-SOT



Treatment approaches with continued CMV viral load

- **Case continued:** The patient is started on valganciclovir treatment, and his immunosuppressive therapy is decreased. Two weeks following initiation of therapy, he continues to have episodes of fever and remains fatigued. His white blood cell count remains 0.5 x 10^9/L, and his creatinine level is 0.9 mg/dL. His CMV viral load is unchanged.
- **Recorded responses:** Resistance testing was more likely to be ordered by transplant specialists or IDs than pharmacists. Only 19% of IDs would continue current therapy if the viral load was unchanged after two weeks (**Figure 2**). The choice to order resistance testing was not linked to whether the HCPs would continue current therapy or not.
- **Case continued:** Resistance testing is ordered, and the patient is continued on valganciclovir while awaiting the results. His white blood cell count remains 0.5 x 10^9/L, and his creatinine level is 0.9 mg/dL. The resistance testing results indicate a UL97 mutation with high-level resistance to ganciclovir.
- **Recorded responses:** The majority of IDs would switch to foscarnet in a setting of high-level resistance to ganciclovir. A quarter of all respondents would switch to maribavir. Among pharmacists, 26% would recommend adding leflunomide compared with 7% of transplant specialists and 1% of IDs (**Figure 3**).

Important factors in determining a treatment plan

- **Question:** HCPs were asked about what key factors they considered in determining a treatment plan for this patient.
- **Recorded responses:** The most important consideration for all respondents was severity of illness (mean score of 4.0–4.3, depending on HCP type, on a scale of 1 to 5) (**Figure 4**).

Barriers to optimal CMV management

- **Question:** HCPs were asked to rate the significance of multiple barriers to the optimal management of CMV risk in transplant recipients.
- **Recorded responses:** Barriers to optimal CMV management post-SOT for HCPs included maintaining immunosuppression, patient adherence to medication regimen, and toxicities/side effects of anti-CMV therapies (**Figure 5**).

Preferred information sources and CME preferences

- Preferred sources of information on CMV management were guidelines and journal articles; pharmacists found CME courses more useful than the other specialists.
- Preferred CME content included guideline updates and translation of clinical data into practice.

Figure 2. HCP approach to continued CMV viral load

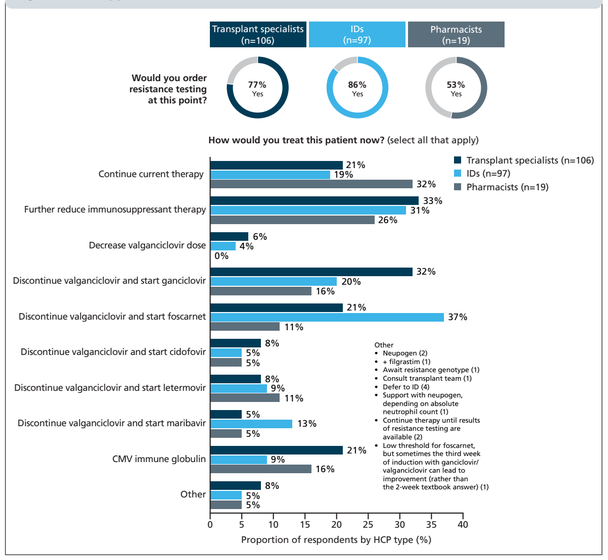


Figure 3. HCP approach to continued CMV viral load with high-level resistance to ganciclovir

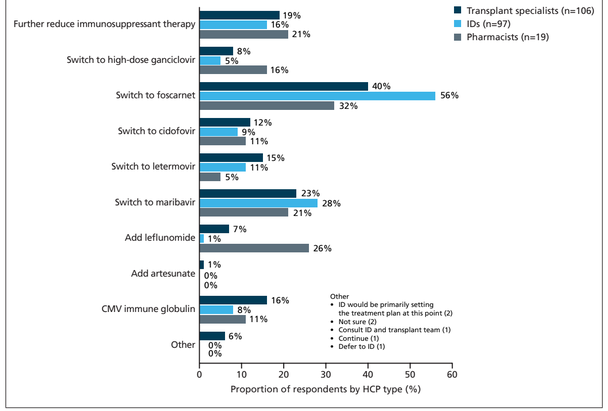
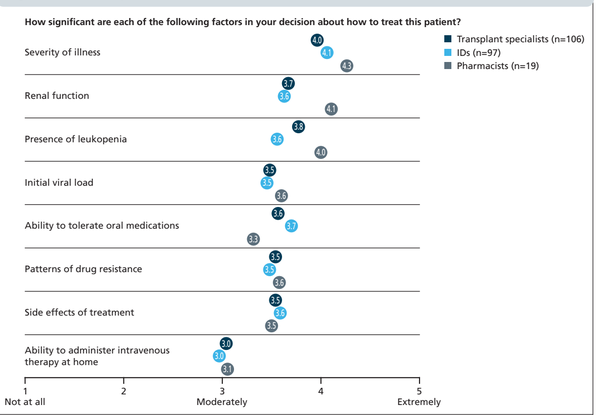
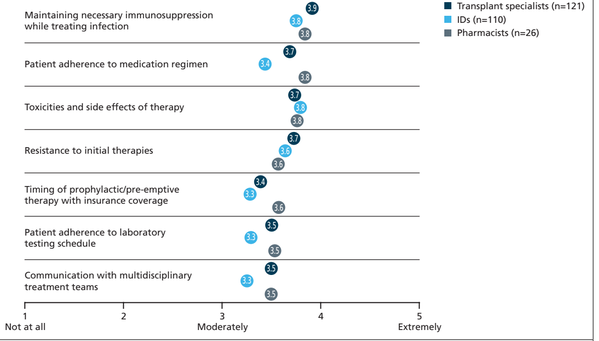


Figure 4. HCPs' responses to treatment decisions



The mean score on a scale of 1 to 5 is represented for each HCP type.

Figure 5. Barriers to optimal CMV management



The mean score on a scale of 1 to 5 is represented for each HCP type.

CONCLUSIONS

- The findings of this study suggest that there is a necessity for future educational initiatives to address the gaps and barriers to optimal CMV treatment.
- HCPs require further education on current CMV management guidelines, therapy selection, and selection of appropriate resistance testing.
- CME regarding CMV treatment options post-SOT may be more beneficial if information is provided in each HCP's preferred format.

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This poster is intended for healthcare providers.