TITLE: Extracorporeal Photopheresis for Organ Rejection: Clinical and Cost-Effectiveness

DATE: 28 September 2015

RESEARCH QUESTIONS

1. What is the clinical effectiveness of extracorporeal photopheresis (ECP) for the management of organ rejection following solid organ transplant?

2. What is the cost-effectiveness of ECP for the management of organ rejection following solid organ transplant?

KEY FINDINGS

Four non-randomized studies were identified regarding extracorporeal photopheresis for the management of organ rejection following solid organ transplant.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No filters were applied to limit the retrieval by study type. The search was limited to English language documents published between Jan 1, 2010 and Sep 17, 2015. Internet links were provided, where available.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

SELECTION CRITERIA

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

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Table 1: Selection Criteria

<table>
<thead>
<tr>
<th>Population</th>
<th>Patients experiencing organ rejection following solid organ transplant</th>
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</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>Extracorporeal photopheresis</td>
</tr>
<tr>
<td>Comparator</td>
<td>Standard of care; None</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Q1: Clinical effectiveness, change in clinical outcomes</td>
</tr>
<tr>
<td></td>
<td>Q2: Cost-effectiveness</td>
</tr>
<tr>
<td>Study Designs</td>
<td>Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, economic evaluations</td>
</tr>
</tbody>
</table>

RESULTS

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, and economic evaluations.

Four non-randomized studies were identified regarding extracorporeal photopheresis for the management of organ rejection following solid organ transplant. No relevant health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, or economic evaluations were identified.

Additional references of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

Four non-randomized studies were identified regarding extracorporeal photopheresis (ECP) for the management of organ rejection following solid organ transplant. Three studies examined ECP following lung transplantation and one following kidney transplantation. Post-lung transplant, ECP was used to treat restrictive allograft syndrome and bronchiolitis obliterans syndrome. No ECP-related side effects were reported. Patients with bronchiolitis obliterans syndrome who responded to ECP had better survival and less re-transplantation than ECP non-responders in the same study. Forced expiratory volume in one second decline was reduced in the ECP group. The authors of one study concluded that ECP was a safe option for the management of chronic lung allograft dysfunction.

In one study, ECP was provided prophylactically (in addition to immunosuppressive agents) to patients who had undergone kidney transplantation. Glomular filtration rate was significantly higher at six months in the ECP group compared to the control group.
REFERENCES SUMMARIZED

Health Technology Assessments
No literature identified.

Systematic Reviews and Meta-analyses
No literature identified.

Randomized Controlled Trials
No literature identified.

Non-Randomized Studies


Economic Evaluations
No literature identified.

PREPARED BY:
Canadian Agency for Drugs and Technologies in Health
Tel: 1-866-898-8439
www.cadth.ca
APPENDIX – FURTHER INFORMATION:

Case Series


Coverage Protocol


Review Articles


Additional References
