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Subcutaneous Immunoglobulin Therapy for Primary and Secondary Immune Deficiency Diseases

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About CADTH: CADTH is an independent, not-for-profit organization responsible for providing Canada's health care decision-makers with objective evidence to help make informed decisions about the optimal use of drugs, medical devices, diagnostics, and procedures in our health care system.

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Key Message

- No evidence was identified regarding the clinical effectiveness of subcutaneous immunoglobulin therapy in patients with primary or secondary immune deficiency diseases.

Research Question

What is the clinical effectiveness of subcutaneous immunoglobulin therapy in patients with primary or secondary immune deficiency diseases?

Methods

Literature Search Methods

A limited literature search was conducted by an information specialist on key resources including MEDLINE, the Cochrane Library, the University of York Centre for Reviews and Dissemination (CRD) databases, the websites of Canadian and major international health technology agencies, as well as a focused internet search. The search strategy comprised both controlled vocabulary, such as the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. The main search concepts were subcutaneous infusions and immunologic deficiency syndromes. No filters were applied to limit the retrieval by study type. Comments, newspaper articles, editorials, and letters were excluded. Where possible, retrieval was limited to the human population. The search was also limited to English-language documents published between January 1, 2016 and October 6, 2021. Internet links were provided, where available.

Selection Criteria

One reviewer screened literature search results (titles and abstracts) and selected publications according to the inclusion criteria presented in Table 1. Full texts of study publications were not reviewed.

Results

No literature was found regarding the clinical effectiveness of subcutaneous immunoglobulin therapy in patients with primary or secondary immune deficiency diseases.

References of potential interest that did not meet the inclusion criteria are provided in Appendix 1.

Table 1: Selection Criteria

Criteria	Description
Population	Individuals of all ages with: • primary immune deficiency diseases (i.e., congenital agammaglobulinemia and hypogammaglobulinemia, common variable immunodeficiency, X-linked immunodeficiency with hyper IgM, severe combined immunodeficiency, and Wiskott-Aldrich syndrome) OR • Secondary immune deficiency diseases (i.e., B cell chronic lymphocytic leukemia, allogeneic bone marrow transplantation, and pediatric HIV infection [in individuals < 18 years of age])
Intervention	SCIg products (i.e., Cutaquig, Cuvitru, Hizentra, Xembify)
Comparator	Alternative SCIg product (i.e., Cutaquig, Cuvitru, Hizentra, Xembify)
Outcomes	Clinical effectiveness (e.g., infection rate, hospitalization rate, health-related quality of life), safety (e.g., headache, pyrexia, hemolytic anemia, infusion-related reactions)
Study designs	Health technology assessments, systematic reviews, randomized controlled trials, non-randomized studies

IgM = immunoglobulin M; SCIg = subcutaneous immunoglobulin.

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References

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses

No literature identified.

Randomized Controlled Trials

No literature identified.

Non-Randomized Studies

No literature identified.

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Appendix 1: References of Potential Interest

Non-Randomized Studies

Unclear Comparator

1. Canessa C, Gallo V, Pignata C, et al. Subcutaneous Immunoglobulin Twenty Percent Every Two Weeks in Pediatric Patients with Primary Immunodeficiencies: Subcohort Analysis of the IBIS Study. *Pediatric Allergy Immunology Pulmonol*. 2019;32(2):70-75. PubMed

2. Vultaggio A, Azzari C, Ricci S, et al. Biweekly Hizentra R in Primary Immunodeficiency: a Multicenter, Observational Cohort Study (IBIS). *J Clin Immunol*. 2018;38(5):602-609. PubMed

Alternative Comparator

3. Canessa C, Iacopelli J, Pecoraro A, et al. Shift from intravenous or 16% subcutaneous replacement therapy to 20% subcutaneous immunoglobulin in patients with primary antibody deficiencies. *Int J Immunopathol Pharmacol*. 2017;30(1):73-82. PubMed