INPLASY PROTOCOL

Early neurological deterioration in Wilson's disease: a systematic literature review and meta-analysis

Litwin, T[1]; Smolinski, L[2]; Antos, A[3]; Bembenek, J[4]; Czlonkowska, A[5]; Kurkowska-Jastrzebska, I[6]; Przybyłkowski, A[7]; Skowrońska, M[8].

Corresponding author:
Tomasz Litwin

tomlit@medprakt.pl

Author Affiliation:
2nd Department of Neurology, Institute Psychiatry and Neurology, Warsaw, Poland.

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None declared.

Review question / Objective: The frequency and predictors of early neurological deterioration in patients with Wilson's disease (WD).

Condition being studied: Early neurological deterioration in WD.

Eligibility criteria: All studies published until 15 September 2022 for original studies (prospective and retrospective), and case series or case reports analyzing early neurological deterioration in WD. Included will be studies published in English.

INTRODUCTION

Review question / Objective: The frequency and predictors of early neurological deterioration in patients with Wilson's disease (WD).

Rationale: Several case series, case reports, and retrospective studies have analyzed the problem of early neurological deterioration in WD. This systematic review will summarize the available evidence on early neurological deterioration in WD, i.e., within 6 months of starting anti-copper treatment. We will investigate the frequency and predictors of early neurological deteriorations in WD.

Condition being studied: Early neurological deterioration in WD.

METHODS

Search strategy: Search strategy: We will search the PUBMED database. Search terms will include: ("Wilson's disease/" Wilson disease" and "neurological deterioration") and ("Wilson disease"/" Wilson disease" and "neurological worsening"). The reference lists of extracted publications will be also searched for relevant articles.

Participant or population: WD patients starting anti-copper treatment, including those with an early neurological deterioration.

Intervention: Starting any anti-copper treatment in real-world cohorts of patients with WD.

Comparator: Not applicable.

Study designs to be included: Prospective and retrospective studies, case series and case reports documenting early neurological deterioration in WD after the start of anti-copper treatment.

Eligibility criteria: All studies published until 15 September 2022 for original studies (prospective and retrospective), and case series or case reports analyzing early neurological deterioration in WD. Included will be studies published in English.

Information sources: Electronic databases.

Main outcome(s): Rate of early neurological deterioration in WD after the start of anti-copper treatment.

Quality assessment / Risk of bias analysis: To prevent the risk of bias in this systematic review, a quality assessment tool will be used to assess the quality of all studies included in our analysis.

Strategy of data synthesis: The results will be summarized descriptive and through a random-effects meta-analysis of cohort studies. To prevent the risk of bias in this systematic review, a quality assessment tool will be used to assess the quality of all studies included in our analysis.

Subgroup analysis: Patients with or without neurological symptoms at diagnosis of WD.

Sensitivity analysis: Patients receiving different anti-copper treatments.

Language restriction: English only.

Country(ies) involved: Poland ; systematic review (all available literature in English).

Keywords: Wilson's disease, anti-copper treatment, chelators, zinc salts, neurological deterioration.

Contributions of each author:
Author 1 - Tomasz Litwin - T.L.: conception, planning and supervising the work, planning the literature search, selecting the abstracts, extracting data from original papers, writing, revising, approving the manuscript.
Author 2 - Lukasz Smolinski - planning the literature search, selecting the abstracts, extracting data from original papers, writing, revising, approving the manuscript. Email: lsmolinski@ipin.edu.pl
Author 3 - Agnieszka Antos - extracting data from original papers, writing, revising, approving the manuscript.
Author 4 - Bembenek Jan - selecting the abstracts, extracting data from original papers, writing, revising, approving the manuscript. Email: bembenek@ipin.edu.pl
Author 5 - Czlonkowska Anna - study design, selecting the abstracts, extracting data from original papers, writing, revising, approving the manuscript. Email: czlonkow@ipin.edu.pl
Author 6 - Iwona Kurkowska-Jastrzębska - selecting the abstracts, extracting data from original papers, writing, revising, approving the manuscript. Email: ikurkowska@ipin.edu.pl
Author 7 - Adam Przybyłkowski - study design, selecting the abstracts, extracting data from original, writing the first draft of manuscript, critical review of manuscript.

Author 8 - Marta Skowronska - selecting the abstracts, extracting data from original source, critical review of manuscript.
Email: mskowronska@ipin.edu.pl