

## PROSPERO International prospective register of systematic reviews

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### Association of human leukocyte antigen DRB1\*15/1501 with response to immunosuppressive therapy in aplastic anemia patients: a meta-analysis

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#### Review question(s)

We aimed to systematically evaluate the association of HLA-DRB1\*15/1501 with response to immunosuppressive therapy in aplastic anemia patients.

#### Searches

Several databases (MEDLINE/PubMed, China National Knowledge Infrastructure CNKI, EMBASE, Web of Science and Cochrane databases) will be searched through October 2015 for all publications on the association between HLA polymorphism and immunosuppressive therapy in AA.

The search terms will be as follows: ("Aplastic anemia") and ("HLA" or "human leukocyte antigen") and ("polymorphism" or "variant" or "genotype") and ("cyclosporine" or "antilymphocyte serum" or "immunosuppression" or "anti-rejection therapy" or "antithymocyte globulin" or "antilymphocyte globulin").

No language limitations will be used.

In addition, we will also search references of retrieved reports and contact study authors by e-mail to identify additional studies and ask for missing data.

#### Types of study to be included

Cohort studies relating to the association of HLA-DRB1\*15/1501 polymorphism and the response to immunosuppressive therapy in aplastic anemia patients.

#### Condition or domain being studied

Papers involving study of HLA-DRB1\*15/1501 expression in AA and response to immunosuppressive therapy.

#### Participants/ population

AA patients with response to immunosuppressive therapy regardless of sex, age and ethnicity will be included.

#### Intervention(s), exposure(s)

AA patients typed for HLA-DRB1\*15/1501 positive comprised the exposures group.

#### Comparator(s)/ control

AA patients typed for HLA-DRB1\*15/1501 negative comprised the non-exposures group.

#### Outcome(s)

##### Primary outcomes

Response rate at six months from the start of treatment.

##### Secondary outcomes

None.

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### **Risk of bias (quality) assessment**

Quality of the included articles will be evaluated using the Newcastle-Ottawa Scale (NOS) scale. The NOS contains eight items categorized into three dimensions including selection, comparability, and exposure. For each item a series of response options is provided. A star system is used to allow a semi-quantitative assessment of study quality, such that the highest quality studies are awarded a maximum of one star for each item with the exception of the item related to comparability that allows the assignment of two stars. The NOS ranges between zero and nine stars.

### **Strategy for data synthesis**

Review manager 5.3 software will be used to perform the meta-analysis. Heterogeneity will be checked by the Chi-square test (Cochran 1954) and the I-squared statistic (Higgins 2003). The criteria for identification of heterogeneity is a P value less than 0.10 for the Chi-square test and an I-squared statistic greater than 50%. When there is no statistical evidence for heterogeneity in effect sizes, we will use the fixed-effect model (Mantel 1959). When significant heterogeneity is identified, we will use the random-effects model (DerSimonian 1986) and explore sources of significant heterogeneity.

### **Analysis of subgroups or subsets**

Subgroup analyses will be performed by ethnicity.

### **Contact details for further information**

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### **Organisational affiliation of the review**

None

### **Review team**

Dr Shan Liu,

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### **Anticipated or actual start date**

04 October 2015

### **Anticipated completion date**

29 February 2016

### **Funding sources/sponsors**

None

### **Conflicts of interest**

None known

### **Language**

English

**Country**

China

**Subject index terms status**

Subject indexing assigned by CRD

**Subject index terms**

Anemia, Aplastic; Histocompatibility Antigens Class II; Histocompatibility Testing; HLA Antigens; Humans; Immunosuppressive Agents; Treatment Outcome

**Stage of review**

Ongoing

**Date of registration in PROSPERO**

15 December 2015

**Date of publication of this revision**

15 December 2015

**Stage of review at time of this submission**

Preliminary searches

**Started**

Yes

**Completed**

Yes

Piloting of the study selection process

Yes

No

Formal screening of search results against eligibility criteria

Yes

No

Data extraction

No

No

Risk of bias (quality) assessment

No

No

Data analysis

No

No

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