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Comparative analysis of adult-onset Still's disease (AOSD) treatments

Submission date
12/12/2023

Recruitment status
No longer recruiting

Registration date
14/12/2023

Overall study status
Completed

Last Edited
09/09/2026

Condition category
Musculoskeletal Diseases

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[X] Results
[ ] Individual participant data

Plain English summary of protocol

Background and study aims
Adult-onset Still’s disease (AOSD) is a rare autoinflammatory disorder with increased mortality. Complications such as macrophage activation syndrome in continuously active disease carry a high mortality risk. Glucocorticoids (GC) and conventional disease-modifying antirheumatic drugs (DMARDs) are commonly used as first-line therapeutic options as opposed to recently licensed interleukin-1 (IL1)-receptor antagonist anakinra (ANA), neutralizing IL1b-antibody canakinumab (CAN), or non-licensed use of IL-6 receptor antibody tocilizumab (TCZ). However, DMARDs have a considerably slower onset, and GC may result in substantial side-effects such as diabetes mellitus or osteonecrosis of the hips. Our study evaluates potential benefits of biologicals (ANA, CAN, TCZ) as first-line therapeutic options in AOSD.

Who can participate?
Data from AOSD-patients (disease onset) fulfilling the Yamaguchi classification criteria, over 18 years, female/male or divers of the last 15 years of participating centers are included in the study.

What does the study involve?
We plan to retrospectively analyze data from German rheumatology centers (last 15 years), examining both the effectiveness of therapy (percentage of patients in remission) and side effects of different therapies.

What are the possible benefits and risks of participating?
Participating in this study offers the benefit of contributing valuable data to guide treatment decisions for AOSD patients, including insights into treatment responses and potential complications under various treatment options.

Where is the study run from?

When is the study starting and how long is it expected to run for?
January 2023 to January 2024

Who is funding the study?
Investigator initiated and funded

Who is the main contact?
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Contact information

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Study information

Scientific Title
Comparison of different treatments in adult-onset Still's disease (AOSD): biologics, glucocorticoids, and conventional disease-modifying antirheumatic drugs (DMARDs)

Acronym
TAST

Study objectives
Complication free remission rates are lower in patients initially treated with biological therapy as opposed to DMARD therapy

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 13/09/2023, Ethics Committee of the medical faculty of the University of Duesseldorf (Moorenstr. 5, Düsseldorf, 40225, Germany; +49 211 81-19591; ethikkommission@med.uni-duesseldorf.de), ref: 2023-2423

Primary study design
Observational

Study design
Retrospective chart review of AOSD patients from multiple German centers

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Treatments of Adult-onset Still's Disease (AOSD, rheumatic disease)

Interventions
Retrospective Observational study

Data collected:
- Epidemiological data (age at onset, sex, height, weight, comorbidities)
- Disease activity data (items of the Pouchot Score, CRP, Ferritin, Leukocyte count, alternatively the EULAR-DAVID score if available in the meantime)
- Physician subjective evaluation of “remission” based on chart review
- fever yes/no
- arthritis yes/no
- ASOD-associated rash yes/no
- Treatment
- Complication of GC use:
Diabetes necessitating insulin therapy Gain in body weight (≥ 10%) Osteonecrosis of any joint
Psychosis or other psychiatric disease requiring psychopharmacological intervention
Hypertension
Dyslipidemia requiring therapy with e.g. statins
Worsening of bone density > 0,5 SD (T1-4, neck or total hip)
Clinical diagnosis of steroid myopathy Skin disease attributed to GC
Eye disease attributable to
- Serious infection necessitating intravenous antibiotic use
- Death
- Macrophage activation syndrome
- AOSD-associated pneumonitis

- ASOD-associated perimyocarditis
- Ongoing disease activity requiring switch from DMARD-based to biological therapy

Intervention Type
Other

Primary outcome(s)
Sustained remission (definition see below) at week 12 and complication free until week 72 (definition see below).

For remission, all of the below must be fulfilled:
1. Physician subjective evaluation of “remission” based on chart review
2. CRP below 10 mg/l
3. No fever during last week
4. No arthritis during last week
5. No ASOD-associated rash during last week

For Complication-free (none of the following should have been appeared):
1. Complications of GC use
2. Diabetes necessitating insulin therapy
3. Gain in body weight (≥ 10%)
4. Osteonecrosis of any joint
5. Psychosis or other psychiatric disease requiring psychopharmacological intervention
6. Hypertension > 180 mmHg systolic pressure resulting in change of antihypertensive medication
7. Dyslipidemia requiring therapy with e.g. statins
8. Worsening of bone density > 0,5 SD (T1-4, neck or total hip), preexisting osteoporosis or osteoporosis diagnosed within 2 months of disease onset is not considered to be a GC-related event
9. Clinical diagnosis of steroid myopathy
10. Skin disease attributed to GC, e.g. striae, cutaneous necrosis, relevant subcutaneous bleeding or ulcerations
11. Eye disease attributable to GC (esp. cataract, glaucoma)
12. Serious infection necessitating intravenous antibiotic use
13. Death
14. Development of macrophage activation syndrome, AOSD-associated pneumonitis, ASOD-associated peri myocarditis
15. Ongoing disease activity requiring switch from DMARD-based to biological therapy

Key secondary outcome(s)
1. Flare-free survival in patients under remission
2. Rate of remission (definition see below) by week 12 and complication free by week 72
3. Retrospective analysis of differences in the glucocorticoid toxicity index (GTI)
4. GC dose reduction (at week 12 and week 72)
5. GC dose reduction by at least 75% compared to disease onset
6. Time to remission
7. Time to complication (definition see above)
8. Complications (definition see above)

Completion date
31/01/2024

Eligibility

Key inclusion criteria
1. Yamaguchi classification criteria are met
2. Documented clinical visits at onset/flare, by week 12 and week 72

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
18 Years

Upper age limit
100 Years

Sex
All

Total final enrolment
228

Key exclusion criteria
Not matching the inclusion criteria

Date of first enrolment
15/09/2008

Date of final enrolment
31/01/2024

Locations

Countries of recruitment
Germany

Study participating centre
Rheinisches Rheuma-Zentrum St. Elisabeth-Hospital Meerbusch
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Sponsor information

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Funder(s)

Funder type
Other

Funder Name
Investigator initiated and funded

Results and Publications

Individual participant data (IPD) sharing plan
The raw data supporting the conclusions will be made available by the authors on reasonable request.
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IPD sharing plan summary
Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		28/03/2025	20/04/2026	Yes	No
Other publications	Comparative evaluation of disease activity measures	04/09/2026	09/09/2026	Yes	No