Cambridge University Hospitals NHS
NHS Foundation Trust

NHS
Cambridgeshire and Peterborough
Clinical Commissioning Group

Shared Care Guidelines

Sodium Aurothiomalate (Gold) – Rheumatoid Arthritis

Executive Summary

- Sodium Aurothiomalate (gold) is still sometimes prescribed as a disease modifying agent to induce and maintain remission of rheumatoid arthritis.
- Sodium Aurothiomalate is potentially toxic and therefore the drug must be monitored.
- Sodium Aurothiomalate is also licensed for progressive juvenile chronic arthritis but this is outside the scope of these guidelines.
- Sodium Aurothiomalate therapy will be initiated with an intramuscular (IM) test dose then increased to the maximum dose or until clinical remission as described.
- Response can usually be seen in 8-16 weeks.
- The responsibilities of the hospital specialist, GP and patient for this Shared Care Guideline can be found within this document here

Sharing of care depends on communication between the specialist, GP and the patient or their parent/carer. The intention to share care should be explained to the patient and accepted by them. Patients are under regular follow-up and this provides an opportunity to discuss drug therapy. The doctor/healthcare professional who prescribes the medication has the clinical responsibility for the drug and the consequences of its use. Further information about the general responsibilities of the hospital specialist and GP can be found here

1. Scope

Prescribing and monitoring by General Practitioners

2. Aim

To provide guidance in the use of Sodium Aurothiomalate as a disease-modifying agent in the treatment of rheumatoid arthritis.

3. Introduction

Sodium Aurothiomalate is a disease-modifying agent that is licensed for the management of active progressive rheumatoid arthritis. The rheumatology department will supervise treatment and will ask you to manage prescribing and monitoring under shared care arrangements.

It is also licensed for use in progressive juvenile chronic arthritis. **However this indication does not fall within the scope of these guidelines.**

4. Abbreviations

- ESR erythrocyte sedimentation rate
- FBC full blood count
- GP general practitioner
- IM intramuscular
- LFTs liver function tests
- MSU mid-stream urine
- U&Es Urea, creatinine and electrolytes

5. Dose and Administration

The dosage below is specific to rheumatoid arthritis.

- The test dose is 10mg by deep IM injection into the deltoid muscle or buttock in week one, followed by 50mg IM in week 2.
- Thereafter a weekly dose of 50mg IM is given until a total dose of 1000mg has been administered or until clinical remission occurs. It should be discontinued if there is no response after 1000mg has been given (excluding the test doses).
- The dose is then reduced to 50mg IM every two to four weeks depending on clinical response.
- With full remission the interval between injections should be increased progressively to three, four weeks and then, after 18 months to 2 years, to six weeks.
- Treatment is continued for up to 5 years after complete remission.
- Dosage must be adjusted according to the individual patient's clinical benefit and tolerance of adverse effects.
- Clinical response may occur between 8 and 16 weeks after starting treatment with gold.
- If relapse occurs, the patient should be referred back to the rheumatology team. A second course of Sodium Aurothiomalate is not usually effective following complete relapse.

Further information can be found in the British National Formulary and the Summary of Product Characteristics (https://www.medicines.org.uk/emc/medicine/18616)

6. Adverse Effects

- Severe anaphylactic/anaphylactoid reaction (which may include weakness, flushing, hypotension, tachycardia, dyspnoea, palpitations, abdominal pain, shock and possibly collapse)
- Rash
- Pruritis
- Mouth ulcers, glossitis, sore throat
- Bone marrow suppression, causing thrombocytopenia, neutropenia and rarely anaemia
- Renal damage indicated by proteinuria/ haematuria on urinalysis.

Rare (but significant) (≥ 1 in 10000 and < 1 in 1000)

- Hepatotoxicity and cholestatic jaundice.
- Pulmonary fibrosis.
- Alopecia.
- Nephrotic syndrome

Further information can be found in the British National Formulary and the Summary of Product Characteristics (https://www.medicines.org.uk/emc/medicine/18616)

7. Cautions

- Elderly
- History of urticaria
- History of eczema
- History of colitis
- Anaphylactoid reaction may occur after any course of therapy within the first ten minutes following drug administration. Treatment with Sodium Aurothiomalate must be discontinued if this occurs.
- Sodium Aurothiomalate must be discontinued in the presence of:
    - blood disorders
    - gastro-intestinal bleeding (associated with ulcerative enterocolitis)
    - unexplained proteinuria (associated with immune complex nephritis) repeatedly above 300 mg/litre.
- The presence of albuminuria, pruritus or rash, or an eosinophilia are indications of developing toxicity. Gold must be withheld for one or two weeks until all signs have disappeared and the rheumatology team contacted for advice on restarting therapy.
- Patients must be warned to report immediately the appearance of pruritus, metallic taste, sore throat, glossitis, buccal ulceration or easy bruising, purpura, epistaxis, bleeding gums, menorrhagia or diarrhoea.
- Women must be advised to avoid pregnancy during treatment

Further information can be found in the British National Formulary and the Summary of Product Characteristics (https://www.medicines.org.uk/emc/medicine/18616)

8. Contraindications

- Pregnancy
- Lactation
- Severe renal impairment
- Severe hepatic impairment
- History of blood dyscrasias
- History of exfoliative dermatitis
- Systemic lupus erythematosus

Further information can be found in the British National Formulary and the Summary of Product Characteristics (https://www.medicines.org.uk/emc/medicine/18616)

9. Interactions

- Aspirin - may exacerbate aspirin-induced hepatic dysfunction.
- ACE inhibitors – may lead to increased risk of anaphylactoid reaction.

Further information can be found in the British National Formulary and the Summary of Product Characteristics (https://www.medicines.org.uk/emc/medicine/18616)

10. Monitoring Standards & Actions to take in the event of abnormal test results/symptoms

Table 2 includes advice on patient monitoring before treatment, from initiation to stabilisation and on-going during therapy.

Table 2. Monitoring Standards

Pre-treatment by the hospital rheumatology team.	• MSU – dipstick urinalysis for blood and protein • Check full blood count (FBC), erythrocyte sedimentation rate (ESR), creatinine and electrolytes (U&Es), liver function tests (LFTs)
Initiation to stabilisation monitoring by the hospital rheumatology team(or GP if in agreement).	• Check FBC at the time of each injection. If previous result is not available **do not** give injection but repeat blood count and give injection once result is available and checked. Look out for downward trends as well as absolute levels of blood cell counts. • Check FBC, creatinine/calculated GFR, ALT and/or AST and albumin every: • Two weeks until on stable dose for 6 weeks then • Once on stable dose, monthly FBC, creatinine/calculated GFR, ALT and/or AST and albumin for 3 months • Thereafter FBC, creatinine/calculated GFR, ALT, and/or AST and albumin at least every 12 weeks • ESR monthly to assess response to treatment. • MSU before each injection to check for proteinuria. • Ask each time about rash or mouth ulcers
On-going monitoring by GP once stable.	• Monitoring as for initiation to stabilisation as above.
Legend: ESR: erythrocyte sedimentation rate; FBC: full blood count; LFTs: liver function tests; MSU: mid-stream urine; U&Es: urea, creatinine and electrolytes.	
All results to be recorded in a patient-held record.	

Table 3 includes advice on what action to take if test results rise or fall below defined limits or if the patient reports one of the adverse events listed.

Table 3. Test Results and Actions to Take

Test results	Action
• Rash or mouth ulcers reported	• **STOP Sodium Aurothiomalate (GOLD) immediately** • Refer to rheumatology practitioner or rheumatologist for advice (see contacts list below).
• WBC < 3.5 x 10^9/L	
• Platelet count < 150 x 10^9/L	
• Neutrophils <1.5x10^9/L	
• **Proteinuria+** or **haematuria+** on 2 or more occasions	• Inform rheumatologist • Check mid-stream urine (MSU). • If infection is present, then treat. • If sterile and proteinuria ++ or more persists, stop gold and discuss with rheumatologist
• Eosinophilia > 0.5 x 10^9/L	• May precede skin rash. • If eosinophilia occurs, increased vigilance for signs of toxicity is required.

Symptoms/side effects	Action
• **Sore throat, abnormal bruising/ bleeding**	• Check FBC immediately. • Stop Sodium Aurothiomalate (gold) until results available. • Refer to rheumatology practitioner or rheumatologist for advice (see contacts list below).
• Rash with pruritus	Refer to rheumatology practitioner or rheumatologist for advice (see contacts list below).

11. Shared Care Responsibilities

a. Hospital specialist:

- Carry out pre-treatment monitoring, confirm suitability of gold therapy and gain patient's informed consent to treatment.
- Send a letter to the GP requesting shared care for the patient. Agreement to shared care will be assumed unless the GP advises otherwise.
- Initiate test doses and prescribe the first maintenance dose of gold injection.
- Ensure accurate details of patient's prescription are communicated, including gold dosage and any additional therapy prescribed to manage side effects.
- Ensure a plan is in place to implement and manage outcomes from the monitoring regimen required during the patient during the initiation to stabilisation phase.
- Ensure the patient is advised to report signs of blood dyscrasias (abnormal bruising/bleeding; sore throat).
- Inform the GP after each clinic attendance if there is any change to treatment or monitoring.
- Inform the GP of patients who do not attend clinic appointments.
- Provide any advice to the patient/carer when requested.
- Carry out routine follow-up in clinic on a regular basis.
- Complete blood and patient monitoring details in the patient-held record book and ensure that patient understands they should carry the book at all times.
- Send a letter to the GP after each clinic attendance ensuring current dose, most recent blood results and frequency of monitoring are stated.
- Evaluate any reported adverse effects by GP or patient and advise on action(s) to be taken.
- Advise the GP on review, duration or discontinuation of treatment where necessary.
- Ensure that backup advice is available at all times.

b. General Practitioner:

- Agree to the shared care guideline when requested by the hospital specialist.
- Prescribe the drug treatment as described.
- Prescribe any additional medication needed to manage adverse effects after checking for drug-drug, drug-disease and drug-food interactions.
- Report any adverse events to the hospital specialist, where appropriate, and take appropriate action regarding continuation or discontinuation of gold.
- Request advice from the hospital specialist when necessary.
- Monitor the patient's overall health and well-being.
- Check for drug-drug, drug-food interactions and drug-disease interactions if any new medication is started or any new medical condition diagnosed, and manage appropriately.

- Monitor the test results (FBC, LFTs, MSU, U&Es) in line with recommendations from hospital specialist.
- Complete blood and patient monitoring details in patient-held record book and ensure that patient understands they should carry the book at all times.

c. Patient or parent/carer:

- Discuss potential benefits and the risk of adverse effects of treatment with the hospital specialist and GP to confirm a clear understanding and to raise any outstanding queries.
- Agree informed consent to treatment.
- Report to the hospital specialist or GP if they do not have a clear understanding of their treatment.
- Attend hospital for test doses of gold and subsequent maintenance doses.
- Attend scheduled clinic and blood test appointments (where relevant) to assist healthcare professionals in providing effective, safe, appropriate treatment.
- Always inform other healthcare professionals (including community pharmacists) that they are receiving gold treatment.
- Report any adverse effects to the hospital specialist and/or GP.
- Check that where possible the specialists have provided a patient-held record or information sheet for monitoring and/ or to alert other clinical staff to the treatment they are receiving.
- Share any concerns they have in relation to treatment with gold.

12. Contact numbers for advice and support

Cambridge University Hospital NHS Foundation Trust		
Specialist	**Post**	**Telephone**
Medicines Information department		**01223 217502**

Rheumatology Department Decisions to alter or discontinue treatment are usually discussed via the Rheumatology Helpline on 01223 217398. The on-call rheumatology specialist registrar (SpR) may also be contacted via the Addenbrooke's Contact Centre.		
Specialist	**Post**	**Telephone**
Jill Bloxham; Julie Isaacson; Tracey Nash	Rheumatology practitioners	01223 217398
Dr Nick Shenker	Consultant rheumatologist	01223 217316
Dr FC Hall	Consultant rheumatologist	01223 216316
Dr Mark Lillicrap	Consultant rheumatologist	01223 217316
Dr K Poole	Consultant rheumatologist	01223 216774

13. Monitoring compliance with and the effectiveness of this document

Specialties will regularly review their incidents and feedback from GPs with regard to the use of this drug and update the guideline accordingly.

14. Equality and Diversity Statement

This document complies with the Cambridge University Hospital NHS Foundation Trust service Equality and Diversity statement.

15. Disclaimer

It is your responsibility to check that this printed out copy is the most recent issue of this document.

16. Document Management

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The information contained in this guideline is issued on the understanding that it is accurate based on the resources at the time of issue. For further information please refer to the most recent Summary of Product Characteristics https://www.medicines.org.uk/emc/medicine/18616 and the BNF http://pharmacybnf:8080/bnf/view/page/local_bnf/PHP6560-sodium-aurothiomalate.htm