Drug: Sulfasalazine

Indications:
Licensed: Rheumatoid arthritis; ulcerative colitis, Crohn’s disease in adults and children
Unlicensed: Sero-negative spondyloarthropathy including psoriatic arthritis and psoriasis.

Background:
Following oral administration around 90% of a dose reaches the colon where bacteria split the drug into sulfapyridine and 5-aminosalicylic acid (mesalazine). Overall the drug and its metabolites exert immunomodulatory effects, antibacterial effects, effects on the arachidonic acid cascade and alteration of activity of certain enzymes. The net result clinically is a reduction in activity of the inflammatory bowel disease. The enteric coated Sulfasalazine is licensed for the treatment of rheumatoid arthritis, where the effect resembles penicillamine or gold.
Clinical response cannot be expected before 3 months.

Definitions:
Stable dose – the dose will be titrated to achieve efficacy at the lowest dose. Once efficacy achieved and provided the patient can tolerate the dose, this will be termed “stable dose”
Stable bloods – results of blood tests remain below the “alert” thresholds as set by national guidelines and have stayed at similar levels for at least two consecutive tests.
N.B. The patient can continue to have active disease despite being on a stable dose or having stable bloods, so the “patient” is not referred to as “stable”

Form
Tablets: 500mg¹
Tablets EN: 500mg²
Suppositories: 0.5g³
Liquid: 250mg/5ml⁴

Dose & Administration
A typical dose regimen for rheumatoid arthritis is 500mg daily increasing by 500mg daily at weekly intervals to a maximum 2g-3g/day in divided doses.
Occasionally doses above 3g/day are prescribed
Treatment of acute attacks of ulcerative colitis is 1-2g four times a day until remission achieved.
Maintenance falls back to 500mg four times a day.
Night time interval between doses should not exceed 8 hours

Secondary Care Responsibilities
- Confirm the diagnosis.
- Check for absence of pregnancy in women of child-bearing age and ensure the patient understands the importance of contraception.
- Discuss the benefits and side effects of treatment with the patient. Ensure that the patient understands which warning signs and symptoms to report.
- Advise patient on adequate fluid intake to prevent crystalluria and kidney stone formation.
- Perform pre-treatment screening⁵: height, weight, blood pressure, FBC, LFT, albumin and, creatinine/ calculated GFR
- Patients should be assessed for co-morbidities, including evaluation for respiratory disease and screening for occult viral infection.
- Ensure that the patient understands not to expect improvement from the treatment straight away.
- Provide the patient with prescriptions for Sulfasalazine (ensure EN tablets for rheumatoid arthritis) until on stable dose and undergoing 3 monthly monitoring. Provide the patient with a monitoring and dosage record booklet and ensure that the patient knows when and where to attend for monitoring. Encourage the patient to take responsibility for ensuring that results of tests are entered in the monitoring booklet.
- Make arrangements for shared care with the patient's GP.
- Review the patient regularly to monitor the patient's response to therapy.
- Advise the GP on frequency of monitoring, management of any dose adjustments and when to stop treatment.
- Ensure that clear backup arrangements exist for GPs to obtain advice.

Primary Care Responsibilities
- Provide the patient with prescriptions for Sulfasalazine (ensure EN tablets for rheumatoid arthritis) once on stable dose and undergoing 3 monthly monitoring
- Monitor at the recommended frequencies (see MONITORING below) and ensure that test results are recorded in the monitoring booklet.
- Report any adverse events to the consultant or specialist nurse and stop treatment on their advice or immediately if an urgent need arises (see MONITORING below).
### Immunisations
- Annual flu vaccine is recommended
- Pneumococcal vaccination recommended
- In patients exposed to chicken pox or shingles, if required, passive immunisation should be considered for varicella. Refer to Green book: [Varicella: the green book, chapter 34 - Publications - GOV.UK](https://www.gov.uk/government/publications/varicella-the-green-book-chapter-34)

### Common Drug Interactions
- Sulfasalazine possibly reduces absorption of digoxin.
- Oral hypoglycemic agents
- Bone marrow suppression and leucopenia have been reported when sulfasalazine given with azathioprine or mercaptopurine.
This list is not exhaustive, please refer to SPCs and BNF

### Cautions
- Glucose-6-phosphate dehydrogenase deficiency: May cause hemolysis.
- Renal impairment (moderate): Risk of toxicity including crystalluria, ensure high fluid intake.
- Pregnancy and breastfeeding: Sulfasalazine with folate supplementation (5 mg/day) is compatible throughout pregnancy, sulfasalazine should be used during pregnancy only if clearly needed. Patients should avoid breastfeeding while taking this medicine.
- Men taking sulfasalazine may have reduced fertility but no evidence that conception is enhanced by stopping the medication for three months prior to conception, unless conception delayed by >12 months when other causes of infertility should also be considered.
- Severe infections – temporarily stop treatment

### Contraindications
- Hypersensitivity to sulfasalazine, sulfonamides or salicylates.
- Porphyria.
- Severe renal failure

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**This guidance does not replace the SPC's, which should be read in conjunction with this guidance.**

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#### MONITORING AND ADVERSE EFFECTS

<table>
<thead>
<tr>
<th>Treatment Status</th>
<th>FBC</th>
<th>LFT</th>
<th>Albumin</th>
<th>Creatinine/calculated GFR</th>
<th>ESR or CRP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial monitoring until on stable dose for 6 weeks</td>
<td>Every 2 weeks</td>
<td>Every 2 weeks</td>
<td>Every 2 weeks</td>
<td>Every 2 weeks</td>
<td>Every 3 months (for RA only)</td>
</tr>
<tr>
<td>For next three months</td>
<td>Every month</td>
<td>Every month</td>
<td>Every month</td>
<td>Every month</td>
<td>Every 3 months (for RA only)</td>
</tr>
<tr>
<td>Thereafter, *</td>
<td>Every 3 months</td>
<td>Every 3 months</td>
<td>Every 3 months</td>
<td>Every 3 months</td>
<td></td>
</tr>
</tbody>
</table>

*Please note: If the patient is also being treated with leflunomide, increased monthly monitoring is required, as specified in the leflunomide shared care guidance. (Where other biologic/DMARDs are used in combination with sulfasalazine, the standard monitoring requirements, as outlined above, continue to apply).*

As per secondary care responsibilities, for clarity the frequency of monitoring should be specified in the initial shared care request.

After 12 months no routine monitoring needed.

- Dose increases should be monitored by FBC, creatinine / calculated GFR, albumin and LFTs every 2 weeks until on stable dose for 6 weeks and then revert to previous schedule.

The team responsible for prescribing the medication should also hold responsibility for monitoring

i.e. prescribing to be carried out in Primary care only once patient on stable dose and undergoing 3 monthly monitoring

In the event of the following adverse laboratory results or patient reported symptoms, withhold sulfasalazine until discussed with specialist team and repeat the test after two weeks:

- WCC < 3.5 x 10³/L or less than the lower limit of reference range as per lab
- Neutrophils < 1.6 x 10³/L or less than the lower limit of reference range as per lab
- Platelets < 140 x 10³/L or less than the lower limit of reference range as per lab
- AST/ALT > 100U/l
• MCV > 105fL
• Creatinine increase >30% over 12 months and/or calculated GFR <60ml/min
• Unexplained eosinophilia >0.5 x 10⁹/l
• Unexplained reduction in albumin <30g/l
• Abnormal bruising or severe sore throat
• Rash or oral ulceration
• As well as responding to absolute values in laboratory tests, it is also relevant to observe trends in results e.g. gradual decreases in white blood cells or albumin, or increasing liver enzymes.

Other adverse effects:
• Nausea/dizziness/headache. If possible continue, may have to reduce dose or stop if symptoms severe. Discuss with specialist team.
• Loss of appetite, raised temperature, leucopenia, hypoglycaemia, insomnia, taste distortion, tinnitus, cough, pruritus, arthralgia, proteinuria are all relatively common
• Impaired folate absorption
• Oligospermia (reversible on discontinuing salazopyrin)

This list is not exhaustive, please refer to SPCs and BNF

References

1. https://www.medicines.org.uk/emc/medicine/3344 SPC salazopyrin tablets
2. https://www.medicines.org.uk/emc/medicine/10722 SPC salazopyrin EN tablets
3. https://www.medicines.org.uk/emc/medicine/3345 SPC salazopyrin suppositories
4. https://www.medicines.org.uk/emc/medicine/22489 SPC 250MG/5ml oral suspension
5. BSR/BHPR Non-Biologic DMARD Guidelines 2017
Shared Care Agreement - Disease Modifying Drugs (DMARDs)

Request by specialist Clinician for the patient’s GP to enter into a shared care agreement

Reference:          Date:

Patient name:    RXR/NHS number:

Patient address:

Diagnosis:

In accordance with the shared care guidelines I kindly request that you prescribe:

1. ___________________  Dose ______________  Frequency_______________

2. ___________________  Dose ______________  Frequency_______________

3. ___________________  Dose ______________  Frequency_______________

for the above named patient:

Shared care guidelines available @ http://www.elmmb.nhs.uk/policies-and-guidelines/shared-care-guidelines/

Last Prescription issued: ___________________  Next prescription due: ___________________

Date of last blood test: ___________________  Date of next blood test: ___________________

Frequency of Blood test: ___________________

I can confirm that the patient has been stabilised and reviewed on the above regime in accordance with the Shared Care guideline.

If this is a Shared Care Agreement for a drug indication which is unlicensed or off label, I confirm that informed consent has been received.

I will accept referral for reassessment at your request. The clinical team in the rheumatology department are available to give you advice.

Details of Specialist Clinician

Name: ___________________  Date: ______________

Consultant/ Associate Specialist/ Specialist Registrar /Specialist Nurse (circle or underline as appropriate)

When the request for Shared Care is made by a specialist nurse, it is the supervising consultant who takes medicolegal responsibility for the agreement.

Consultant: ___________________

Contact details for rheumatology specialist nurses ELHT: elht.rheumatologynurses@nhs.net

Telephone number: 01254 734491 or 01254 734569

Unless we hear from you within 14 days, we will assume that the Shared Care agreement has been accepted.

Yours sincerely,

The Rheumatology Directorate, ELHT