Mycophenolate mofetil

A. Indications: (Unlicensed) RA, systemic lupus erythematosus and lupus nephritis and inflammatory myopathy such as dermatomyositis and polymyositis. It has also been used in psoriasis, atopic dermatitis and autoimmune bullous dermatoses such as pemphigus. It is also being used in randomized clinical trials in scleroderma, vasculitis and Behcet’s disease.

B. Mycophenolate mofetil dosage: Grade of evidence: C
Typical dose: 1–2 g/day.
Starting dose: 500mg daily for the 1st week, 500 mg twice daily for the 2nd week and increase it gradually by 500 mg each week until the optimal or maximum tolerated dose is reached.
Maximum dose: Up to 3 g/day.

C. Route of administration:
Oral tablets (250mg capsules) and suspension.
i.v. infusion–available (see BNF).

D. Time to response: 6 weeks to 3 months

E. Cautions: Grade of evidence: C
(1) Patients with suspected lymphoproliferative disorder or unexplained anaemia, leucopenia and thrombocytopenia.
(2) Localized or systemic infection.
(3) Very frail and elderly.

F. Contraindications: Grade of evidence: C
(1) Pregnancy and breast feeding.
(2) Localized or systemic infections.

G. Notable drug interactions (refer to BNF and SPC)
(1) Antacids: Containing aluminium and magnesium hydroxide cause a decrease in the absorption of MMF by 33% and bioavailability by 17%.
(2) Cholestyramine: May decrease the absorption of MMF and bio-availability by 40%.
(3) Probenecid: Prevents renal tubular secretion and causes an increase in plasma concentration of MMF.
(4) Aciclovir: Causes increase in the concentration of both MMF and aciclovir. However, the increase is significant only in renal impairment.
H. Common untoward effects
MMF does not usually cause major organ toxicity. The drug does not cause any mutagenic or chromosome abnormalities. The commonest adverse reactions are as follows:

(1) Gastrointestinal: Diarrhoea, nausea, vomiting, abdominal cramps and dyspepsia.
(2) Uro-genital: Sterile haematuria, urinary tract infection, renal tubular necrosis.
(3) Haematological: Abnormal bruising with or without sore throat may indicate bone marrow failure. Severe neutropenia occurs in 0.5% patients receiving MMF in the full dose. Stop the drug. Check FBC immediately and also discuss with specialist team.
(4) Malignancy: Lymphomas caused by oncogenic viruses and skin tumours.

I. Monitoring schedule: Grade of evidence: C

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<th>BSR</th>
<th>BAD</th>
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<td>(a) Pre-treatment assessment</td>
<td>FBC, U&amp;E, LFT’s CXR.</td>
<td>Same as BSR.</td>
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<td>(b) Monitoring</td>
<td>FBC weekly until dose stable for 4 weeks then fortnightly for 2 months. Monthly, even after patient is stabilized on treatment.</td>
<td>Same as BSR.</td>
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J. Actions to be taken: Grade of evidence: C

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<tr>
<td>WBC &lt;3.5 × 10^9/l</td>
<td>Withhold until discussed with the specialist team.</td>
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<tr>
<td>Neutrophils &lt;2.0 × 10^9/l</td>
<td>Withhold until discussed with the specialist team.</td>
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<tr>
<td>Platelets &lt;150 × 10^9/l</td>
<td>Withhold until discussed with the specialist team.</td>
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<tr>
<td>Bruising with or without sore throat</td>
<td>Check FBC immediately and discuss with specialist team.</td>
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K. Immunisation
(a) Patients receiving MMF must not receive immunization with live vaccines. Inactivated polio is available although suboptimal response may be seen.
(b) Annual flu vaccination is recommended.
(c) In patients receiving MMF exposed to chickenpox or shingles, passive immunization should be carried out using VZIG.

L. Pregnancy and breast feeding: It is generally advised to ensure that the patients are not pregnant before the drug is commenced and advised to use contraception for at least 6 weeks after discontinuation of treatment. It is not recommended for mothers who are breast feeding.

Consultant: ........................................
Telephone: ........................................