NHS South West London

Azathioprine GP information leaflet for neurological indications

NHS South West London supports the prescribing of azathioprine for patients within adult services (non-transplant indications) under shared care guidelines. This leaflet is intended to be used with the guidelines as an adjunct to be referenced for neurology indications. The BNF treatment summaries also provides information on prescribing immunosuppressants for neuromuscular disorders.

Azathioprine is an immunosuppressant. It is an anti-purine metabolite that acts on T cells. It is a well-established drug with a clearly recognised side effect profile. Azathioprine is used in immune-mediated neurological disorders as a second line therapy (as a steroid-sparing agent) such as myositis[1], inflammatory neuropathies[2], myasthenia gravis[3] and others to allow reduction in the steroid dose.

Treatment of Myasthenia Gravis

Corticosteroids are established as treatment for myasthenia gravis. In generalised myasthenia gravis azathioprine is usually started at the same time as the corticosteroid and it allows a lower maintenance dose of the corticosteroid to be used.

Treatment of Myositis:

Conventional therapies include glucocorticoids usually in combination with another or multiple immunosuppressive agents including Azathioprine, Methotrexate, Mycophenolate, Tacrolimus and Cyclophosphamide remain the mainstay of treatment. Biologic agents including rituximab are being increasingly used.

Inflammatory Neuropathies

The mainstays of treatment for nodal/paranodal antibody positive inflammatory/autoimmune neuropathy are corticosteroids or IVIg or rituximab or a combination of these. Medication which suppresses the immune system including azathioprine, methotrexate and cyclophosphamide may also be used to treat some patients.

Dosing

The starting dose of azathiophrine is 50mg once a day. The dose should be increased by 25 to 50mg every week to fortnight to reach target dose advised in clinic letter,

Side-effects

The most common side effects are nausea, vomiting and heartburn. An H2-blocker or proton pump inhibitor may also be helpful. Rashes and alopecia may also occur.

There is possibly an increased risk of lymphoma with azathioprine when used in combination with other drugs in transplant patients. It is unclear if this applies to patients receiving less intensive immunosuppression for neurological indications.

Actions to be taken in primary care in the event of abnormal blood results or side effects

In addition to the abnormal blood results and side effects listed in the azathioprine for patients within adult service (non-transplant indications) shared care please note the following:

- Azathioprine doses can be withheld for several days without causing a disease flare.
- Hypersensitivity reactions like fever, malaise, rash, vomiting, muscle/bone pain, dizziness. **STOP** azathioprine.

Contraindications and Precautions

- Avoid in Lesch-Nyhan Syndrome

Notable drug Interactions

Refer to the Summary of Product Characteristics and BNF for a full list**.** Additional interactions to those listed in the azathioprine for patients within adult service (non-transplant indications) shared care:

- **NSAIDs:** May be continued, not recommended in cirrhosis or IBD.
- **Drugs which may have a myelosuppressive effect, e.g. penicillamine:** Where possible, avoid co-prescribing.
- **Phenytoin, sodium valproate, carbamazepine:** When co-prescribed with azathioprine, the absorption of these anti-epileptic drugs is reduced.

Contact details

Please see section 13 of the azathioprine for patients within adult service (non-transplant indications) shared care for contact details of specific services or individuals. In the first instance, it may be appropriate to contact the prescribing doctor.

Key References

[1] Oddis CV, Aggarwal R. Treatment in myositis. Nat Rev Rheumatol. 2018 May;14(5):279-289. doi: 10.1038/nrrheum.2018.42. Epub 2018 Mar 29.

[2] Collins MP, Hadden RD. The nonsystemic vasculitic neuropathies. Nat Rev Neurol. 2017 Apr 27;13(5):302-316. doi: 10.1038/nrneurol.2017.42. PMID: 28447661.

[3] Sussman J, Farrugia ME, Maddison P, Hill M, Leite MI, Hilton-Jones D. Myasthenia gravis: Association of British Neurologists' management guidelines. Pract Neurol. 2015 Jun;15(3):199-206. doi: 10.1136/practneurol-2015-001126. PMID: 25977271.

Document History

Version: 1.0

Author: **Neurology working group. Acknowledgment to Department of Neurology, Atkinson Morley Wing, St George's Hospital**
Approved by: Integrated medicines committee (IMOC)
Approval date: **15th February 2023**
Review Date: February 2025