

Review on Overview of Azathioprine

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Abstract: Azathioprine (AZA) is a drug used in the operation and treatment of active rheumatoid arthritis (RA) and the forestallment of order transplant rejection. This exertion reviews the suggestions, action, and contraindications for azathioprine as a precious agent in treating RA and other diseases when applicable. This exertion will punctuate the medium of action, adverse event profile, and other crucial factors (e.g., off marker uses, dosing, pharmacodynamics, pharmacokinetics, monitoring, applicable relations) material for members of the interprofessional platoon in the treatment of cases with RA and affiliated conditions. Azathioprine is a thiopurine linked to a alternate heterocycle (an imidazole outgrowth) via a thioether. It's a pale unheroic solid with a slightly bitter taste and a melting point of 238-245 °C. It's virtually undoable in water and only slightly answerable in lipophilic detergents similar as chloroform, ethanol, and diethylether. It dissolves in alkaline waterless results, where it hydrolyzes to 6-mercaptopurine.

Keywords: Pharmacology, Interaction, Overdose, Adverse Effect, Transplantation, Rheumatoid Arthritis

REFERENCES

- [1]. Jayempi EPAR". European Medicines Agency. 20 April 2021. Retrieved 4 March 2023.
- [2]. Jayempi Product information". Union Register of medicinal products. Retrieved 3 March 2023.
- [3]. The American Society of Health-System Pharmacists. Archived from the original on 20 August 2016. Retrieved 8 December 2016.
- [4]. Singer O, McCune WJ (May 2017). "Update on maintenance therapy for granulomatosis with polyangiitis and microscopic polyangiitis". *Current Opinion in Rheumatology*. 29 (3): 248-253.
- [5]. World Health Organization (2019). World Health Organization model list of essential medicines: 21st list 2019. Geneva: World Health Organization. hdl:10665/3257713. WHO/MVP/EMP/IAU/2019.06. License: CC BY-NC-SA 3.0 IGO.
- [6]. Azathioprine - Drug Usage Statistics". ClinCalc. Retrieved 7 October 2022.
- [7]. Patel AA, Swerlick RA, McCall CO (September 2006). "Azathioprine in dermatology: the past, the present, and the future". *Journal of the American Academy of Dermatology*. 55 (3): 369-389.
- [8]. Nuyttens JJ, Harper J, Jenrette JM, Turrisi AT (January 2005). "Outcome of radiation therapy for renal transplant rejection refractory to chemical immunosuppression". *Radiotherapy and Oncology*. 74 (1): 17-19.
- [9]. Remuzzi G, Lesti M, Gotti E, Ganeva M, Dimitrov BD, Ene-lordache B, et al. (August 2004). "Mycophenolatemofetil versus azathioprine for prevention of acute rejection in renal transplantation (MYSS): a randomised trial". *Lancet*. 364 (9433): 503-512.
- [10]. Sandborn WJ (1998). "Azathioprine: state of the art in inflammatory bowel disease". *Scandinavian Journal of Gastroenterology. Supplement*. 225 (234): 92-99.
- [11]. Biancone L, Tosti C, Fina D, Fantini M, De Nigris F, Geremia A, Pallone F (June 2003). "Review article: maintenance treatment of Crohn's disease". *Alimentary Pharmacology & Therapeutics*. 17 (Suppl 2): 31-37.
- [12]. Timmer A, Patton PH, Chande N, McDonald JW, MacDonald JK (May 2016). "Azathioprine and 6-mercaptopurine for maintenance of remission in ulcerative colitis". *The Cochrane Database of Systematic Reviews*. 2016.

- [13]. Abu-Shakra M, Shoenfeld Y (2001). "Azathioprine therapy for patients with systemic lupus erythematosus". *Lupus*. 10 (3): 152-153.
- [14]. Olszewska M, Kolacinska-Strasz Z, Sulej J, Labecka H, Cwikla J, Natorska U, Blaszczyk M (2007). "Efficacy and safety of cyclophosphamide, azathioprine, and cyclosporine (ciclosporin) as adjuvant drugs in pemphigus vulgaris". *American Journal of Clinical Dermatology*. 8 (2): 85-92.
- [15]. Richman DP, Agius MA (December 2003). "Treatment of autoimmune myasthenia gravis". *Neurology*. 61 (12): 1652-1661.
- [16]. Meggitt SJ, Gray JC, Reynolds NJ (March 2006). "Azathioprine dosed by thiopurinomethyltransferase activity for moderate-to- severe atopic eczema: a double-blind, randomised controlled trial". *Lancet*. 367 (9513): 839-846.
- [17]. Casetta I, Iuliano G, Filippini G (February 2009). "Azathioprine for multiple sclerosis". *Journal of Neurology, Neurosurgery, and Psychiatry*. 80 (2): 131-2, discussion 132.
- [18]. Jasek, W, ed. (2007). *Austria-Codex (in German) (62nd ed.)*. Vienna: Österreichischer Apothekerverlag. pp. 4103-9.
- [19]. Weersma RK, Peters FT, Oostenbrug LE, van den Berg AP, van Haastert M, Ploeg RJ, et al. (October 2004). "Increased incidence of azathioprine-induced pancreatitis in Crohn's disease compared with other diseases". *Alimentary Pharmacology & Therapeutics*. 20 (8): 843-850.
- [20]. Pecher D, Zelinkova Z, Lucenicova J, Peppelenbosch M, Dokupilova S, Mikusova V, Mikus P (November 2020). "Porous graphitic carbon based chromatography hyphenated with mass spectrometry: A new strategy for profiling thiopurine nucleotides in patients with inflammatory bowel diseases". *Analytica Chimica Acta*. 1137 (1137): 64-73.
- [21]. Abu-Shakra M, Shoenfeld Y (2001). "Azathioprine therapy for patients with systemic lupus erythematosus". *Lupus*. 10 (3): 152-153.