IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 2, December 2024

Review on Pharmacological Evaluation of Anti-Inflammatory Agents

Dr. Mrunal. K. Shirsat[1], Ms. Snehal. D. Kadbhane[2], Ms. Vaibhavi. S. Bhosale[3], Ms. Shravani.K. Patil[4]
Principal, Department of Pharmacy[1]
Assistant Professor, Department of Pharmacy[2,3,4]
Kasturi Shikshan Sanstha's College of Pharmacy, Shikrapur, India

Abstract: *Anti - inflammatory diseases and pain are among the main problems that significantly influence the lifestyle of millions of people and existing therapies are not always effective and can cause several adverse effects. In this context, the molecular modifications or synthesis of compounds continue being the best strategies for the identification of new compounds for the treatment of pain and inflammation. The aim of this study was to evaluate the anti-inflammatory activities The clinical phase further validated the drug's efficacy in reducing symptoms of inflammatory disorders, including arthritis and soft tissue injuries. Its tolerability and multi-target action position it as a promising alternative to existing therapies. This evaluation supports the potential of the drug for clinical use, offering a new avenue for managing inflammation with reduced side effects. Future studies will focus on long-term safety and broader therapeutic applications.Safety assessments indicated minimal adverse effects at therapeutic doses, with a superior gastrointestinal and cardiovascular safety profile compared to traditional NSAIDs.Compare the efficacy and safety of the agent with standard anti-inflammatory drugs (e.g., NSAIDs, corticosteroids, or biologics). Test the drug in models of acute and chronic inflammation to assess its versatility. Investigate its therapeutic efficacy in specific inflammatory conditions, such as arthritis, colitis, or other autoimmune disorders.Anti-inflammatory drugs, including non-steroidal anti-inflammatory drugs (NSAIDs) and corticosteroids, are widely used for managing pain, inflammation, and chronic conditions such as arthritis. While effective, their use is associated with significant adverse effects, such as gastrointestinal, cardiovascular, renal, and hepatic toxicities, as well as allergic reactions. Pharmacovigilance, the science and activities involved in detecting, assessing, understanding, and preventing adverse drug reactions (ADRs), plays a critical role in ensuring the safe use of these medications.*

Keywords: Efficacy, anti-inflammatory, significance, safety

Objectives:

1. To determine the therapeutic potential of the anti-inflammatory drug in managing inflammation-related conditions while minimizing adverse effects. Assess the drug's ability to reduce inflammation (e.g., decrease swelling, redness, heat, pain, or impaired function)
2. Measure changes in biomarkers of inflammation (e.g., prostaglandins, cytokines like TNF-α, IL-1, and IL-6).Investigate the biochemical pathways the drug targets (e.g., COX inhibition, cytokine suppression, or NF-κB modulation).
3. Understand its interaction with specific receptors or enzymes involved in the inflammatory response. By achieving these objectives, the pharmacological evaluation aims to establish the candidate anti-inflammatory agent as a safe Detection and Monitoring of Adverse Drug Reactions (ADRs):
4. Identify and document known and unknown adverse reactions associated with anti-inflammatory drugs, such as gastrointestinal bleeding, cardiovascular risks, and hepatotoxicity.
5. Monitor the incidence and severity of ADRs, particularly for nonsteroidal anti-inflammatory drugs (NSAIDs) and corticosteroids.
6. Risk Assessment and Management: Assess the risk factors contributing to ADRs (e.g., patient age, comorbidities, polypharmacy).

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 2, December 2024

7. Develop strategies to minimize the occurrence of adverse reactions, such as dose adjustments and monitoring.
8. Post-Market Surveillance:
Evaluate the safety profile of anti-inflammatory drugs in diverse populations and long-term use through post-marketing studies.
Identify rare or delayed ADRs not detected during clinical trials.
9. Promoting Rational Drug Use:
Educate healthcare professionals and patients on the appropriate use of anti-inflammatory drugs.