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Design, synthesis and biological evaluation of some new 4-substituted quinazoline derivatives as anti-inflammatory agents

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Inflammation is the response of immune system towards injury and infection. It is divided into two main categories acute and chronic. Acute inflammation (occurs rapidly, within few hours after injury and infection) such as acute bronchitis, infected ingrown toenail, sore throat and chronic inflammation (occurs from unresolved or recurrent acute inflammation) include asthma, chronic peptic ulcer, tuberculosis, rheumatoid arthritis. In the market, large number of anti-inflammatory drugs is available but unfortunately they all are associated with one or other side effects. Therefore, efforts are made towards the development of new molecules having potential anti-inflammatory activity with fewer side effects. In general, quinazoline derivatives are known to possess wide range of biological activities such as antibacterial, anti-inflammatory, anti-tubercular, antifungal, antihypertensive and anticancer. The anti-inflammatory profile depends upon the type and location of a specific substituent on quinazoline nucleus. Therefore, we decided to synthesize new series of quinazoline derivatives substituted at 4-position with different aryl/alkyl amino groups and explored their potential as anti-inflammatory agents. Various 4-aminoquinazoline derivatives were synthesized by treatment of 4-chloroquinazoline with different aryl/alkyl amino substituent under reflux or at room temperature. Compounds were evaluated at dose 20mg/kg for their anti-inflammatory activity by using Carrageenan induced rat paw edema model and compared with indomethacin used as standard. At the tested dose (20 mg/kg), none of the synthesized derivative showed any sign of gastric complications.

Biography

Anjleena is pursuing PhD at Panjab University, Chandigarh. She has completed her MPharmacy with first rank in University and awarded gold medal for that. She has been awarded with Inspire fellowship from Department of Science and Technology, Delhi for her PhD course. Her area of research interest includes development of quinazoline based new chemical entities having medicinal significance.

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