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Synthesis and characterization of some novel isoxazolines for *In-vitro* antiplatelet aggregation activity

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A large number of medicinal compounds which have been discovered belong to a major class of heterocycles containing Nitrogen and Sulphur. Isoxazolines are five-member heterocyclic compound containing nitrogen and oxygen. Organic compounds containing 2-isoxazolines forms a significant group of drugs which exhibit an array of biological activities ranging from antibacterial, antifungal, diuretic, analgesic, anti-inflammatory, anti-tubercular, antitumor, anti pyretic, CNS depressants and so on.

In view of the above observations we have synthesized 2-isoxazolines with various substitutions at fifth position. The starting material para-methoxy acetanilide (GSM) was synthesized by refluxing para anisidine with acetic anhydride for 30-45 min. GSM (01-13) was synthesized by reacting GSM with various substituted aromatic benzaldehyde (01-13). The title compounds GSM (01a-13a) was synthesized by reacting GSM (01-13) with hydroxylamine hydrochloride. The newly synthesized compounds were characterized by MP, TLC, UV, IR, NMR and Mass spectra. The title compounds were screened for their in-vitro antiplatelet aggregating activity using Heparin as standard at concentration of 30, 50, 80 and 100µgm/ml.

In conclusion, from the in-vitro antiplatelet activity results, it was observed that electron withdrawing groups on the aldehydic phenyl ring of the compounds influenced the activity. Among all the compounds tested, compounds GSM-03a, GSM-07a, GSM-12a with 2'-nitro, 2'-chloro, 4'-chloro substitution and GSM-11a with -H showed more significant activity. Compounds GSM-02a, GSM-06a, GSM-08a with 3-nitro, 2-OH, 4-OH respectively showed mild to moderate activity compared to standard Heparin. Remaining compounds did not show any activity as compared to that of standard.

Biography

Mr. Satyendra Deka has completed his M. Pharm at the age of 30 years from Rajiv Gandhi University of Health Sciences, Karnataka and awarded Gold Medal for topping in the final M. Pharm and securing 10th Rank of the University. Now he is pursuing Ph.D. from Srimanta Sankaradeva University of Health Sciences, Assam. He is the Assistant Professor of Institute of Pharmacy, Assam down town University, Assam. He has published more than 18 papers in reputed journals and serving as a member of different organization.

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