Design, synthesis, characterisation and biological evaluation of novel quinazoline derivatives.

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ABSTRACT

Quinazoline skeleton appears mainly in alkaloids, most commonly in the form of 4-(3H)-quinazoline moiety. A few of these alkaloids have been the object of synthetic work by Bergmanand co-workers, among them Rutaecarpine is one of the several quinazoline and carboline alkaloids isolated from the various plants of Rutaceae. Quinazoline nucleus is having analgesic, anti-cancer, anti-inflammatory, anti-convulsant, antibacterial and antifungal activity. Melting points of synthesized compounds were determined in open capillary tubes and are uncorrected. Thin layer chromatography was performed using pre-coated aluminum plates coated with silica gel GF254 [E.Merck] of 0.25 mm thickness. The spots were visualized in the ultraviolet light chamber.IR spectra were recorded on ABB BOMEM FTIR pectrometer using KBr pellets. 1H NMR spectra of the compounds in duetereated ethanol was recorded on JEOL GSX 400 NMR spectrophotometer. Mass spectroscopy was recorded on GCMS QP 5000 Shimadzu. The animal used for the biological evaluation is swiss albino mice using the Hot plate method. Compounds were evaluated for anti-tubercular activity using REMA method against mycobacterium tuberculosis compounds were evaluated for antioxidant activity by p-NDA method using ascorbic acid as standard drug. Compounds I-A2, I-A5, I-A6,II-A2,and II-A6 showed good antioxidant activity. Quinazoline ring with substituted anilines showed moderate analgesic, anti- inflammatory, anti-tubercular and antioxidant activities. Whereas it showed good anti-cancer activity against MCF-7 breast cancer cell lines, therefore these compounds may serve as a lead molecule for further modification to obtained clinically useful novel entities in the new millennium.

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