

COMPARATIVE STUDY OF ANTI-INFLAMMATORY EFFECT OF ACECLOFENAC AND DICLOFENAC ON HUMAN BY CLINICAL TRIAL

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Abstract

Various exogenous and endogenous stimuli incite a complex reaction in vascularized connective tissue called inflammation. Non steroidal antiinflammatory drugs are used to reduce inflammation Preferential COX-2 inhibitors namely diclofenac and aceclofenac was taken for my present work and anti inflammatory effect was compared with control and with each other. Student-t-test-was done to compare result. It was found that inflammation varied significantly across the three groups ($P=000$) compared to control, in~lammation was less in both diclofenac and aceclofenac ($P=00$). Reduction of inflammation with diclofenac was less, in comparison to aceclofenac at end. Aceclofenac is more efficacious than diclofenac.

Keywords: Aceclofenac, diclofenac, Anti inflammatory effect

Introduction

The inflammation dilutes, destroys or isolates the causation agent and sets the sequence of event that heal and reconstitue the damage tissue.

Aceclofenac is moderately COX-2 Selective congener of diclofenac having similar property and may confer condroprotective.

The basic morophologic pattern, which frequently have Clinical Significance are (Serous, Fibrinous, Suppurative) inflammation along with Ulceration. Acecolfenac is more gastric-friendly as it is some what-COX-2 Selective and is also longer acting.

Material and Methods

This work was done at the department of pharmacology of D.M.C.H Laheriasarai, Darbhanga, Bihar. It was done between September to October 2020. Regarding ethical aspect, I had informed concerned authority of this college. The patients were group as control, diclofenac, aceclofenac for introduction of inflammation for studying anti-inflammatory effect Urate synovitis method of Mc carty et. al was adopted.

Preparation of Sodium Urate crystal-4gm Sodium hydroxide pellet were dissolved in 400ml distilled water in a glass beaker. 1.68 gm Uric Acid was added. The resultant Opaque prepration was allowed to remain over. night at room temperature. The next morning the crystals were harvested and were then washed, 3 times in cold saline resuspended in saline and sterilized in an autoclave. Weight of aceclofenac and diclofenac taken during experiment was 100mg and 50mg respectively. Suspensions for injection were kept in rubber-stopped multi does vial containing 15 to 24 mg urate per ml.

Men weighing between 55 to 65 kg. were taken. The skin above one knee was disinfected and a sterile 21 gavage needle was inserted into the joints. The needle was left in place, a syringe containing the Urate suspension was attached and volume from 1 to 5ml was injected into the joint (approximately 2 to 4mg Urate) One hour before the injection of urate crystal. Men were treated with test compound or the standard. Experiment was designed so that 5 pair of men was tested on each of 2 days. On the first day only one pair men received the drug, one week later the opposite knee of each pair of man was injected but the other pair of men was treated.

Statistical Analysis : Scoring system was adopted in which inflammatory symtom ranging from tenderness limping was assessed. Data was presented in (Mean+SEM) and were analysed using statistical package in for social scientist 10 (SPSS) Student's t-test and ANOVA were applied to compare Significance between different group ($P<0.05$).

Results and Discussion

(Edema) with control diclofenac and aceclofenac were (19.4 + 50), (14.50 + 40) and (13.20 + 50) respectively four hour after drug administration The mean edema in three group varied significantly [$F(2,27)=140.42, P=.000$] the mean edema of aceclofenac group was significantly less than control [$t(18)=8.22, P=.000$]. It was also Significantly less in diclofenac group in Comparison to control [$t(18)=6.48 P=.000$] However the mean swelling in aceclofenac group was found less in comparison to aceclofenac group [$t(18)=2.58 P=0.18$] Sehgal A et al in year 2015 conducted antiinflammatory work and found after 8 week that swelling reduction with aceclofenac was from 9.16 + .03 to 4.88 + .79 and with diclofenac group was from 8.74 + .66 to 5.87 + .92. It became significant that

aceclofenac reduced the swelling more than diclofenac group.

Conclusion

From above observation it is evident that aceclofenac is more efficacious than diclofenac as far as anti-inflammatory effect is concerned.

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