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Review Article

Advances Of NSAIDS In Ankylosing Spondylitis

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ABSTRACT

Background: Non-steroidal anti-inflammatory drugs (NSAIDs) play a crucial role in the treatment of Ankylosing spondylitis. Cost and drug toxicity frequently deter the long-term use of anti-tumor necrosis factor agents in Ankylosing spondylitis. Methodology: The trial was conducted on 50 patients with symptomatic active chronic AS who received rheumatology therapy. Every two weeks 40mg Adalimumab was administered 6 injections for subcutaneous (10 weeks). As per follow-up, they did not achieve AS response criteria by week 12. RCT was conducted on 215 patients who participated in 6 weeks & compared celecoxib, ketoprofen, and placebo were randomly allocated continuous treatment with NSAIDs or demand treatment after over half of the patients continued to improve. Results: Four clinical trials were conducted on celecoxib, Adalimumab, ketoprofen, and placebo Patients experienced early and significant improvement in pain, NSAIDs requirement, function, and several indices ASAS 20 and 40, ASAS partial remission after discontinuing injections. At weeks 12 and 48, 84% and 52% of patients showed ASAS 20 improvement. Most AS patients are at low risk of cardiovascular and gastrointestinal complications. Conclusions: A study was conducted by a rheumatologist for 215 patients a 10-week course of NSAIDS was given to patients after 10 week course there was early improvement that often lasted for 24 weeks. Continuous use of NSAIDs reduces pain without increasing toxicity.

INTRODUCTION

Ankylosing spondylitis is a chronic, inflammatory painful disorder of the axial skeleton and sacroiliac joints that causes significant limitations in spine motion, spine deformity, and, peripheral arthritis. The prevalence of AS in India is reported to be 0.03%. According to the recently published Assessment in Spondyloarthritis International Society (ASAS) and European League Against Rheumatism (EULAR) recommendations for the management of AS, NSAIDs are considered to be first-line treatment. Long-term safety is more important in AS because NSAIDS are effective in most of the patients with AS without pharmaceutical alternatives. NSAIDS are useful for symptom control and this efficacy has been one

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of the diagnostic criteria for AS specified in the Armor classification criteria. COX (cyclooxygenase -2) inhibitors have brought reduced risk of side effects but their efficacy and toxicity have not been well described in AS patients. Several anti-TNF drugs have been launched Worldwide to improve access and affordability. Adalimumab is a popular anti-TNF medication that is not available in India. It is marketed as a standard in India in 2014. The author was inspired by a new concept after repeatedly observing, prolonged symptomatic relief following a shorter treatment period with infliximab in several patients with AS. Short-term therapy appeared to be more effective, safer, and more acceptable to patients.

OBJECTIVES:

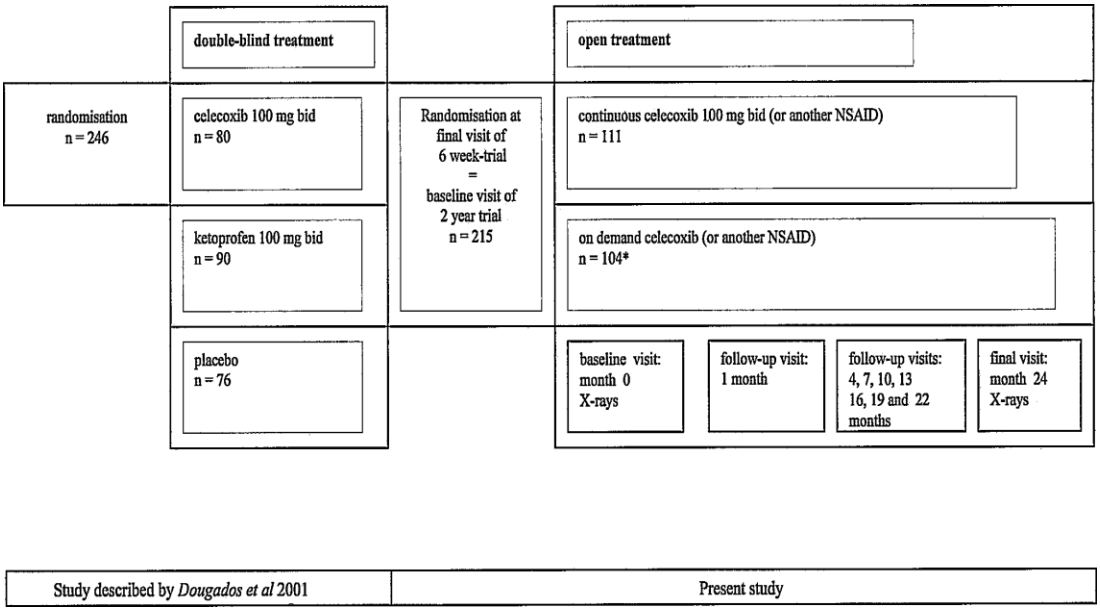
- To find out the effectiveness of NSAIDs in Ankylosing spondylitis.
- Outline the evaluation of NSAIDS in Ankylosing spondylitis.
- Review the conservative management option available in NSAIDS.
- To find out the effects of NSAIDs in reducing pain, poster balance, and activities in patients with AS.
- To find out the mechanism of action of NSAIDs.

METHODOLOGY:

The study was conducted in a popular community Rheumatology clinic (Centre for Rheumatic Diseases (CRD), Pune, India). The most recent version of the Declaration of Helsinki was published in 2013. Inclusion criteria were included:

1) Clinical diagnosis of AS made by rheumatology according to the Assessment in SpondyloArthritis International Society (ASAS) criteria.
2) Patients who were at least 18 years old and no older than 75 years old.
3) Patients who had symptomatic disease, and patients who met any of the following three criteria during the previous week: **a)** axial muscular skeletal pain with VAS (visual analog scale) score of 3 cm for more than 3 months.

b) An erythrocyte sedimentation rate (ESR) of 28mm end for 1st hour or C-reactive protein (CRP) assay of less than 6mg/L**. c)** Patients who need frequent NSAIDS being on a stable for at least four weeks. **d)** Use of DMARDS (except sulfasalazine and /or methotrexate) in the previous 12 weeks**. e)** Use of steroids in the previous four weeks. Most studies of the efficacy of NSAIDS have been short-term, with a duration of up to 6 weeks. These are the most frequently prescribed drugs in AS. Comparing celecoxib 100mg twice daily with ketoprofen 100mg twice daily and with placebo. NSAIDS washout period of 2-14 days.



In the Dougados et al. study the incidence of any adverse effects in the celecoxib group (68%) was significantly higher than in the placebo group (42%, p = 0.005) and the ketoprofen group (60%). Five patients in the celecoxib group withdrew from the study due to adverse events. Two serious adverse events were reported in this study: 1 (1.3%) of treatment that was considered to be not treatment-related) 1 (1.1%) in the ketoprofen group.

Individuals were asked to describe the use of NSAIDS as medication through their disease 1) how effective the medications were 2) changes made to NSAIDS therapy, and 3) the occurrence of severe side effects due to this therapy. The survey sample included all patients who gave their primary diagnosis as AS, with or without any other associated conditions. Patients who did not indicate that their diagnosis was arrived at or confirmed by a physician were excluded from the survey.

RESULTS

As per an observational study of patients (n=50) with symptomatic moderately severe chronic ankylosing spondylitis.

Weeks, 0 Baseline/Variables	0 to 4*	0 to 2	2 to 4	4 to 6	6 to 8	8 to 12	12 to 24	24 to 36	36 to 48	48+
Number of patients	50	50	50	49	49	49	49	47	44	39
Mean daily dose mg (SD)	92.4 (27.62)	104.7 (25.3)	108.7 (31)	77.3 (46.7)	35.1 (42.4)	19.6 (35.7)	17.2 (32.2)	22.2 (38.9)	26.6 (42.8)	50.5 (50.1)
**Continuous use	50	50	45	37	17	9	4	6	9	17
***As-needed basis	0	0	5	7	13	15	14	15	19	11
^Nil use	0	0	0	5	19	25	31	26	16	11

NSAIDs mean daily dose patients etoricoxib available as 60mg and 90mg, over 90% of patients consumed etoricoxib in the study. 48+ study completion and a 12-week follow-up.

Rheumatologists further investigated and conducted trials on 215 patients out of 111 who were randomized to the continuous treatment group and 104 of whom were randomized to the on-demand treatment group. One patient in the demand group was excluded from the analysis because he died in a car accident before starting the trial. In the continuous treatment group, 96 patients completed the study (68 completed the study while taking celecoxib, and 28 patients completed the study while taking a different NSAID). The reasons for withdrawal of the 15 patients in this group were inefficacy (n=8), adverse events (n=2), moving to another city or country (n=2), and unknown (n=30).

In the on-demand treatment group, 86 patients completed the study (67 patients completed the study while taking celecoxib, and 19 patients completed the study while taking different NSAIDs). The reasons for withdrawal of the 17 patients in this group were inefficacy (n = 8), adverse events (n = 3), moving to another city or country (n = 2), and unknown (n = 4).

DISCUSSION

This study aimed to perform a literature review about the usage of NSAIDs in Ankylosing spondylitis. From the articles reviewed pharmaceutical interventions like Adalimumab, celecoxib, and placebo are found to be effective in managing Ankylosing spondylitis for increasing function, and significantly decreasing pain at early stages. Adalimumab, celecoxib, and placebo most effectively work in AS it will decrease effectively compared to other pharmaceutical drugs.

The articles included drugs that are performed in clinical trials and clinical setups.

Even though these interventions were found to be effective their dose, optimal type, and load remain unclear. As I have only reviewed a limited number of articles the effect of interventions cannot be generalized. Further studies and reviews are required on this topic which can constitute in generalizing the management program for AS pain.

Limitations of the study

- The limited number of articles was only taken.
- Only randomized control trials were included.

CONCLUSION

The findings of the literature strongly help us find that the drugs are more effective than surgical treatment in stage 1 (> 18 years old) and stage 2 (< 75 years old), made for drugs to decrease pain, and increase the functions of the patient.

The treatment was well tolerated overall and was risk-free.AS patients, especially those considered for long-term continuous treatment with celecoxib, adalimumab should be carefully screened for CV and GI risk factors.

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