ORIGINAL ARTICLE

Treatment Trends in Osteo-Arthritis Patients attending Out-Patient Clinics in a Tertiary Care Hospital

SAMINA GHAZNAVI, REHAN SALEEM, BILAL YOUSUF

ABSTRACT

Objective: To study the various trends in treatment followed by patients suffering from Primary Osteo-Arthritis attending the outpatient clinics.

Study Design: Case Series

Place and Duration of study: Liaqat National Hospital, Karachi - From October to December 2012

Patients and Methods: This was an observational study in which a random set of 263 patients suffering from primary Osteo arthritis (who had not undergone any surgical intervention) was selected from the Medical and Rheumatology outpatient clinics of Liaqat National Hospital Karachi. Both males and females were included. Their ages ranged from 30 years to 80 years and their treatment trends were studied.

Results: Out of 263 patients, 70 were males and 193 were females. The largest number of patients i.e. 85 was in the age group of 50-60 years and the smallest number of patients i.e. 14 was in the age group of 70-80 years. Oral medication was the mainstay of treatment and was being taken by all the patients, either alone or in combination with intra articular injections (IAI's) and/or physical therapy. Oral medication comprised of NSAIDS, Glucosamine and Chondroitin Sulphate, Calcium and Vitamin D supplements. All the patients were taking NSAIDS either alone or in combination with Glucosamine and Chondroitin Sulphate and/or Calcium and Vitamin D.

Conclusion: The main treatment trend in our patients was: Oral medication, being used alone or in combination with intra articular injection and/or physical therapy. NSAIDS were the mainstay of treatment used by all the patients, either alone or in combination with Glucosamine and Chondroitin Sulphate and/or Calcium and Vitamin D supplements. None of them had undergone any patient education regarding the disease or lifestyle modification.

INTRODUCTION

Osteo arthritis being a degenerative joint disease is an ongoing progressive entity. To date no specific treatment or cure has been devised. However it can be managed with a multi facetted approach entailing patient education, life style modification, pain control, physical therapy and rehabilitation. Various management guidelines have been developed independently by the American College of Rheumatology (ACR) [1-3] , European League Against Rheumatism (EULAR) [4,5], and the most recent by Osteo arthritis Research Society International (OARSI) [6] .

Therapeutic goals being control of pain, maintenance of joint function and muscle strength as well as prevention of disability.

Since it is a disease of the aging, many a times patients have multiple co-morbidities i.e. Ischemic heart disease, hypertension, diabetes mellitus and acid peptic disease etc. Therefore the management for each patient needs to be tailor made.

Correspondence: Dr. Samina Ghaznavi, Liaqat National Hospital, Karachi

PATIENTS AND METHODS

With this concept in mind, we set forth to observe the treatment trends in our patients. A random set of 263 patients of primary osteoarthritis (who had not undergone any surgical intervention), attending the Medical and Rheumatology Outpatient clinic of Liaqat National Hospital from October 2012 to December 2012 were selected. Both males and females were included and the ages ranged from 30 to 80 years. Three main treatment categories were made i.e. Oral medication, Intra articular injections and Physical therapy. These categories were further subdivided.

The first category i.e. Oral medication was subdivided into NSAIDS, Glucosamine and Chondroitin Sulphate, Calcium and Vitamin D supplements.

The second category i.e. Intra articular injections was subdivided into Steroids and Hyaluronic acid.

The third category i.e. Physical therapy was subdivided into Pain management and Muscle strengthening exercises.

Depending upon the type of treatment they were undergoing, they were placed in the above categories

RESULTS

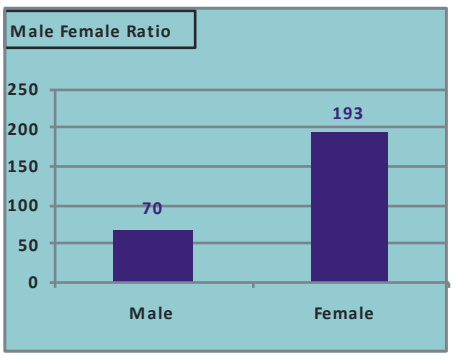
Results of our study yielded 70 (i.e. 27%) males and 193 (i.e. 73%) females. Their ages ranged from 30 years to 80 years. Maximum number of patients i.e. 85 i.e. 33% were between the ages of 50-60 years, followed by 68 i.e. 26 % patients between the ages of 40-50 years, 59 i.e. 22 % patients between the ages of 60-70 years, 37 i.e. 14 % patients between the ages of 30-40 years while the lowest number of patients i.e. 14 i.e. 5 % were between the ages 70-80 years.

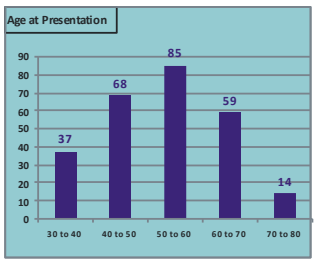
Treatment categories showed 68 patients i.e. 26 % were taking oral medication alone, while 105 i.e. 40 % were taking oral medication as well as undergoing physical therapy. 23 patients i.e. 9% were taking oral medication and had received intra articular injections while 67 patients i.e. 25 % were on oral medication, undergone physical therapy and had taken intra articular injections as well.

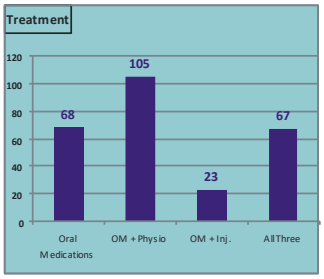
In the patients who were on oral medication, it was observed that 51 % were on NSAIDS alone, while 10 % were on NSAIDS along with Glucosamine and chondroitin sulphate, 32 % were on NSAIDS and Calcium and vitamin D, while the remaining 7 % were receiving all three.

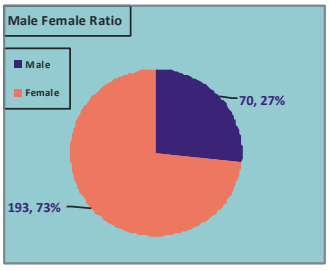
In patients who had received intra articular injections, it was seen that 83 % had received steroids only, while 17 % had received steroids and Hyaluronic acid.

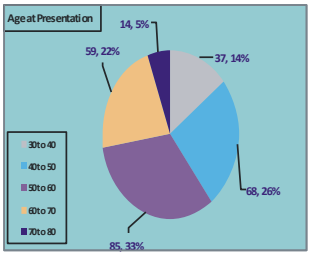
Of the patients who were undergoing physical therapy, 59 % were undergoing pain management alone, while 41 % were undergoing pain management as well as muscle strengthening exercises.

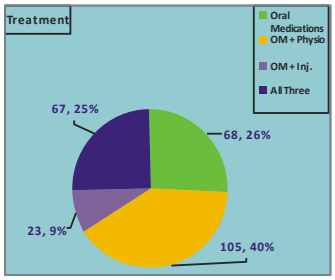


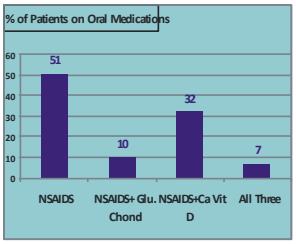


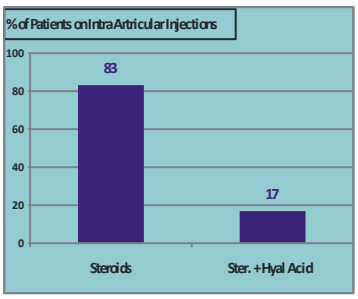


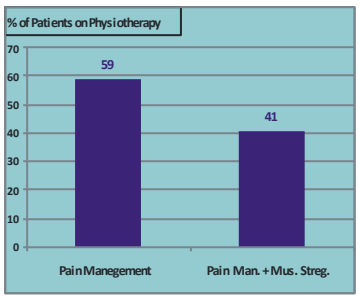












Proforma

S. No.	Gender	Age	Treatment						
			Oral Medication			Intra Articular Injections		Physical Therapy	
			NSADIS	Glu+Chond	Ca+Vit D	Steroids	Hyaluronic Acid	Pain Mangement	Mus. Strengthening Exercises
1	M	60	Y		Y			Y	
2	F	45	Y	Y				Y	
3	F	46	Y	Y				Y	
4	F	54	Y		Y	Y	Y		
5	F	72	Y		Y				
6	M	39	Y						
7	F	56			Y				
8	F	63	Y	Y	Y	Y	Y	Y	Y

DISCUSSION

Oral Medication

NSAIDS

The first line of treatment is Asetaminophen [7], which is used in mild to moderate pain, whereas for severe pain NSAIDS are more effective [8]. However they are accompanied with the risk of adverse effects i.e. GI bleed [8], Hypertension and Nephrotoxicity. There is yet another class of NSAIDS, the COX-2 inhibitors, which in benefits are similar to NSAIDS and have lower adverse GI side effects, but they carry a high risk of adverse cardiovascular events such as myocardial infarction [9].

Glucosamine and Chondroitin Sulphate

This combination has been claimed to be a disease modifying agent which slows down cartilage damage. However, there have been varying reviews regarding the efficacy.

Some of the initial studies have shown a definite slowing of cartilage damage however a later study (the GAIT study) failed to demonstrate the desired effect [10]. Since these are food supplements and sold over the counter, they have variable quality control. Therefore standardization of quality and more trials are needed [11], before they are incorporated in treatment protocols.

However it has been seen that patients receiving this combination do report some decrease in pain and joint stiffness.

The Osteoarthritis Research Society International (OARSI) recommends that glucosamine should be discontinued if no effect is observed after 06 months [12].

In our study we found, in patients who were taking oral medications only a small number of patients i.e. 10% were taking NSAIDS with Glucosamine and Chondroitin Sulphate, while a smaller number of patients i.e.07% were taking NSAIDS with Glucosamine and Chondroitin Sulphate and calcium and vitamin D supplements.

Calcium and Vitamin D Supplements:

Calcium and Vitamin D Supplements may be used as adjunctives in the management of Osteoarthritis.

Calcium plays an important role in bone mineralization, while vitamin D not only helps in mineralization but also in proteoglycan synthesis by chondrocytes, as well as in the reduction of degradative matrix metaloproteinases. All of which

could be protective in the progression of Osteoarthritis.

There is strong ecological and case-control evidence that vitamin D reduces the risk of autoimmune diseases. And evidence also exists although weaker that vitamin D reduces the risk of osteoarthritis, diabetes mellitus, hypertension and stroke [13].

In the Framingham study, in a set of patients the relationship of dietary intake and serum levels of vitamin D to the progression of Osteoarthritis of the knee was studied. It was found that low intake and low serum levels of vitamin D both were associated with increased risk of progression of knee osteoarthritis [14].

Another study has shown the risk of hip osteoarthritis to be 3 folds greater in patients with low level of serums 25-hydroxy vitamin D [15].

We saw in our study, amongst patients who were taking oral medication, the trend of using NSAIDS with Calcium and Vitamin D was greater i.e. 32%, as compared to that of patients using NSAIDS with Glucosamine and Chondroitin Sulphate i.e. 10%.

Intra articular Injections:

Intra articular steroid injections have mainly been used for very painful and inflamed joints since a long time and they do provide short term pain relief. [16] . They are also useful when pain is refractory to oral medication or the patient cannot undergo knee joint replacement.

Another preparation in use is intra articular Hyaluronic acid which gained popularity in mid 1990s when studies showed its beneficial effect in mild to moderate osteoarthritis of the knee [17,18]. Although it has been effective in 60% of patients with mild to moderate osteoarthritis, its exact mode of action is not very well defined [19].

Its beneficial effect seems to last for a period of 6-12 months.

In our study we saw that a small number of patients i.e. 23 out of 263 i.e. 9% had received NSAIDS and intra articular injections, while the trend to use NSAIDS , intra-articular injections and physical therapy was greater. 67 patients i.e. 25% had used all these three modalities.

Amongst patients who had received intra articular injections, the trend to use steroids alone was much greater i.e. 83% had received steroids only, while only 17% received steroids and Hyaluronic acid.

Physical Therapy

Since Osteoarthritis is progressive, it cannot be cured but needs to be managed and the most important aspects of management are pain reduction, maintenance of joint function, mobility and muscle strength and prevention of disability. All of these can be achieved, to a certain degree, with Physical therapy. Several studies have shown regular exercise for maintenance of muscle strength to be very beneficial [20,21]. Moderate exercise leads to improvement in joint function as well as decrease in pain [22].

Also certain modalities in Physical therapy such as Ultra sound and Diathermy etc have been shown to reduce pain and thus improve joint function [23] .

Usually a combined program of pain management and muscle strengthening exercises is the best approach.

In our study we saw the predominant trend in patients was the use of Oral medication and Physiotherapy. A total number of 105 out of 263 patients i.e. 40% were undergoing Physical therapy as well as receiving Oral medication while 67patients i.e. 25% were undergoing Physical therapy, receiving Oral medication and had also received Intra articular injections. Out of the total number of patients undergoing physical therapy 59% were on pain management and 41% were on pain management and muscle strengthening exercises.

Patient Education and Life Style Modification:

Patient Education and Life Style Modification are very important aspects in the management of osteoarthritis. When the patients understand and self manage their disease, they tend to change their life style (i,e weight reduction, regular exercises, proper nutrition and rehabilitation etc) and may even alter the natural history of the disease.

These measures may improve joint function, reduce pain, stiffness, fatigue, and also they need for oral medication [24].

It was shown in a meta analysis, that patient education could provide about 20% more pain relief as compared to NSAIDS alone in patients with hip Osteoarthritis [24]. However none of our patients had undergone any kind of education about their disease or about lifestyle modification.

CONCLUSION

We saw that the main trend of treatment in our patients was the use of oral medication which was being used alone or in combination with intra articular injections and/or physical therapy. The trend to use Oral medication with Physical therapy predominated.

Amongst the oral medication maximum use was that of NSAIDS, which were being used alone or in combination with glucosamine and chondroitin sulphate and/or calcium and vitamin D supplements, while none of the patients were taking Acetaminophen. The combination of NSAIDS with Calcium and Vitamin D predominated.

In Intra articular injections the use of Steroids alone predominated, while in Physical therapy Pain management predominated.

None of the patients had received any kind of education about their disease hence did not under go any kind of life style modification, although this is a very important and beneficial aspect of management.

Hence there is a great need for these measures which could not only alter disease progression but also decrease the use of NSAIDS.

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