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Case Report on Ankylosis Spondylosis

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ABSTRACT

BACKGROUND : Ankylosing spondylitis is a chronic inflammatory rheumatic disorder that primarily affect the axial skeleton causing inflammation and pain in your spine. It results in serious impairment of the spinal mobility and physical function thereby affecting the quality of life of the patient.

CASE REPORT : This case report describes a 34 year old male patient presented with back pain for a duration of 3 months. The patient was diagnosed with ankylosing spondylitis and was treated with TNF alpha inhibitor.

CONCLUSION : The study was concluded that the Ankylosing Spondylitis diagnosed on the basis of HLA B-27 positivity along with clinical, radiological and other haematological examinations based on Modified New York's criteria and Rome's criteria and treated with TNF inhibitor such as Infliximab 250 mg/kg. Patient was symptomatically improved after the administration of Infliximab but the musculoskeletal deformities were persisting. We conducted this study as there were lacunae in the literature regarding the effectiveness in long term outcomes of TNF inhibitors in the treatment of Ankylosing Spondylitis.

KEYWORDS : Ankylosing spondylitis, HLA B27, TNF inhibitors, Infliximab

I. INTRODUCTION

Ankylosing Spondylitis is a rare inflammatory disorder of unknown cause that primarily effects the axial skeleton, peripheral joints and Extraarticular structures. Among 90% of the patients diagnosed with Ankylosing Spondylitis shows HLA B-27 positive[(1).] Among the patients Ankylosing Spondylitis is more common in men than women and the ratio is 3:1 . The age of onset is typically between 15-25 years. The prevalence of Ankylosing spondylitis is generally between 0.1% and 1.4% globally[(2)]

The hallmark feature of Ankylosing spondylitis is the involvement of sacroiliac joints during the progression of the disease. The SI joints are located in the base of the spine where the spine joins the pelvis. Ankylosing Spondylitis can affect other areas of the body such as shoulder, heels, and small joints causing pain inflammation and stiffness. Ophalmologic manifestations of Ankylosing Spondylitis are iritis and uveitis. In more advanced cases this inflammation can lead to Ankylosis that is new bone formation in spine causing sections of spine to fuse in a fixed immobile position.

The clinical diagnosis of AS is done mainly by thorough history and clinical tests which include occiput to wall distance, chest expansion, Modified Schober test , Pelvic Compression test etc. Appearance of radiographic abnormalities is typically delayed. Classic bamboo spine is a characteristic of advanced Ankylosing Spondylitis[(3)] caused by syndesmophyte formation and bony bridging at the edge of the vertebrae. Laboratory tests such as ESR and CRP are useful markers of inflammation. Association of HLA B27 with Ankylosing Spondylitis is well established[(4).]

Ankylosing Spondylitis is managed conservatively by physiotherapy, NSAIDs, DMARDs and the drugs that inhibit tumour necrosis factor have revolutionised the treatment of Ankylosing spondylitis.[(4)] The surgical modalities in treatment of as are total hip arthroplasty, corrective osteotomies of cervical and lumbar spines to improve quality of life.

II. CASE REPORT

A 34 year old male patient presented with complaint of low backache of 3 month duration. It was insidious in onset, gradually progressive in nature aggregated by taking rest and relieved by activities. He was not able to move after waking up for half an hour and there after on activity it improves. The pain was more during night time,

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which disrupt his sleep also. It was a dull aching type pain, localized to the lower part of back bilaterally. There was no radiation of pain. He also had complaints of generalised weakness.

The symptoms were started at the age of 22 and had a progressive course. Initially there was a mild low backache and it was progressively increased upto morning stiffness bilaterally. He consulted Ayurvedic massage centres for the same and there was no improvement. He was treated with epidural steroid injection, one year back and there was decrease in symptoms thereafter and reappeared after one year. He is a known chronic smoker and alcoholic and taking mixed diet with normal bowel and bladder habits. No other comorbidities and not on any medications also.

On general examination, the patient was found to be anaemic with BP-110/70 mmhg, HR-110/min and RR-20/min. On musculoskeletal examination he had a chest expansion of 1 cm, Exaggerated cervical kyphosis and Obliterated lumbar lordosis. Modified Shobers test was positive, Occiput-wall distance-8 cm, Pelvic compression test was positive bilaterally. CVS, CNS, GI system and Respiratory system appears to be normal on examination. Haematological investigations were performed and it was found that Hb-9.9 mg/dl, ESR-53 mm/hr, CRP-10.8 mg/dl. HLA B-27 were send and found to be positive. On Radiological investigation, Syndesmophyte were present and the bamboo spine was rulled out by the treating Orthopedic surgeon. Obliteration of Sacral-ileac joint was also noted in the x-rays.

Investigational findings during the time of admission.

PARAMETERS	PATIENT VALUE	NORMAL VALUE
Hb(g/dl)	9.9	12.5-18 g/dl
ESR(mm/hr)	53	<10 mm/hr
CRP(mg/L)	10.8	<10 mg/L
HLA B-27	Positive	

Examinational findings during the time of admission

EXAMINATION	RESULT
Modified Shobers Test	Positive
Pelvic Compression Test	Positive bilaterally
Occiput-wall distance	8 cm
BP(mmHg)	110/70
Heart Rate	110/min
Chest expansion	About 1cm

He was admitted and investigated in view of history suggestive of AS. Initially he was treated with NSAIDs till the HLA B-27 reports were available. With the positive HLA B-27 reports, haematological investigations, radiological findings and clinical examination findings based on New York criteria, ROMES criteria, he was diagnosed to have Ankylosing Spondylitis. After the confirmation of diagnosis he was treated with Infliximab 250 mg once in a week and the same dose was repeated at 2 weeks, 6weeks and 8 weeks interval. The dosage calculation of 3-5 mg/kg body weight for 50 kg weighting patient. He was also treated with Sulphasalazine 500 mg BD. He was also advised for haematological and blood transfusion for Anaemia. After the administration of Infliximab, the patient was symptomatically improved in terms of morning stiffness, low backache and generalized fatigue. Musculoskeletal deformities were persisting.

III. DISCUSSION

In this case study, the patient was diagnosed with Ankylosing Spondylitis at an age of 30 years and treated with TNF alpha inhibitors. The early diagnosis and further management of Ankylosing Spondylitis helps to prevent the complications to a certain extent. Ankylosing Spondylitis can be diagnosed with the aid of HLA B-27, haematological investigations, radiological investigations and clinical examination findings based on Modified New York criteria and ROMES criteria[(5).]

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Modified New York criteria for diagnosis of Ankylosing Spondylitis

CLINICAL CRITERIA

- Low back pain (>3 months ,improved by exercise , not relieved by rest)
- Limitation of lumbar spine motion , sagittal and frontal planes
- Limitation of chest expansion relative to normal values for age and sex

RADIOLOGIC CRITERIA

- Sacroilitis grade ≥ 2 bilaterally or grade 3- 4 unilaterally

Criteria for diagnosing ankylosing spondylitis (Rome,1961)

Clinical criteria

- Low back pain and stiffness for more than three months which is not relieved by rest.
- Pain and stiffness in the thoracic region
- LIMITED MOTION IN THE LUMBAR SPINE
- LIMITED CHEST EXPANSION
- History or evidence of iritis or its sequelae

Radiological criteria

- X ray that shows bilateral sacroiliac changes can be a characteristic of ankylosing spondylitis

After the confirmation of diagnosis based on Modified New York's and Rome's criteria the patient was treated with Infliximab 250 mg/kg OD and the dose was repeated for 2 weeks, 6 weeks and 8 weeks interval. Infliximab is the drug that belongs to the class of TNF inhibitors which is a monoclonal antibody that produces it's action by binding to the tumour necrosis factor alpha which is the inflammatory cytokine produced by macrophages/monocytes during acute inflammation responsible for the destruction of bones and cartilage leading to the symptoms of Ankylosing Spondylitis[6]. Various TNF alpha inhibitors that are used in the treatment of ankylosing spondylitis include Adalimumab, Etanercept, Golimumab and Infliximab. Studies have shown that the long term use of anti TNF agents were associated with an increased risk of infectious adverse events such as tuberculosis ,serious infections.[7] So the patient should be monitored for the occurrence of infections in later life.

IV. CONCLUSION

Ankylosing Spondylitis is an inflammatory disorder that can lead to musculoskeletal deformities if left untreated. We reported a case of Ankylosing Spondylitis that is diagnosed on the basis of HLA B-27 positivity and treated effectively with Infliximab 250 mg/kg. After the administration of Infliximab the patient was symptomatically improved in terms of morning stiffness, low backache and generalized fatigue but the musculoskeletal deformities were persisting. We conducted this study as there were lacunae in the literature regarding the effectiveness in long term outcomes of TNF inhibitors in the treatment of Ankylosing Spondylitis.

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