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### Living Quality Life with Ankylosing Spondylitis

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#### Abstract

Ankylosing Spondylitis (AS) is a progressive auto immune disease and is one of the worst forms of arthritis which starts with back pain, morning stiffness, buttock pain etc and if left untreated may end up with death from cardiac or respiratory or multi organ failure or from sepsis. Many AS patients cannot live a quality life either from ignorance or from fear of dying early. Severe pain and restriction in mobility generates depression and fear in patients having AS. Negligence results in early death in many patients. The

motto of this paper is to boost the AS patients to live normally without any fear. In this paper I have recorded and analyzed data of four Patients having AS. No clinical trials have been done upon the patients. These case studies matches with the systematic investigation of the disease obtained earlier. The outcome of this paper will be able to help the AS patients to become conscious and they will be able to get clear idea of living quality life with AS.

**Keywords:** Ankylosing Spondylitis (AS), CRP, HLA B27, MRI, Sacroiliitis, Quality Life

#### 1. Introduction

Ankylosing Spondylitis<sup>7</sup> is a chronic auto immune disorder<sup>[1]</sup> in which the lifesaving immune system of the body attacks the healthy cells and tissues by mistake leading to inflammation. AS has been disturbing the human civilization since ancient times<sup>[2]</sup>. It is one of the worst types of chronic arthritis causing pain through inflammation primarily in spine and in sacroiliac joints. Symptoms<sup>[9]</sup> include back pain, late night awakening, alternating buttock pain, morning stiffness, problem in turning aside in bed, fatigue, loose bowel movement, problem in deep breathing etc in post adolescence. Stiffness diminishes with activity and returns after inactivity<sup>[4]</sup>. As the disease develops, mobility decreases<sup>[3]</sup>, morning stiffness increases; stiffness results even with small period of inactivity, spine joints fuses over time leading to unendurable pain and ultimately end up in crooked posture developing total fusion of spine called 'bamboo spine'<sup>[10]</sup>. Young male with a positive Human Leukocyte HLA-B27<sup>[8]</sup> Antigen are susceptible to AS<sup>[3]</sup>. AS is diagnosed by radiographic sacroiliitis<sup>[4]</sup> and confirmed by magnetic resonance imaging (MRI). Till date there is no cure for AS but regular treatment under a competent rheumatologist can slow down the progress of the disease.

#### 2. Methods

No experiment has been conducted upon the patients and no suggestion has been given to the patients rather the author sought suggestions from them. Only a few questions were asked to the patients and family members of the patients in a story telling and conversation mode and the data is analyzed.

#### 3. Case Studies

Data of four patients having AS is put into two different tables.

**Table 1:** Containing data of Patient I & II

| S. No | Particulars                            | Patient I                                                                                                                                                                              | Patient II                                                                                                                   |
|-------|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| 1     | Date of Birth                          | 1963                                                                                                                                                                                   | 1972                                                                                                                         |
| 2     | Gender                                 | Male                                                                                                                                                                                   | Male                                                                                                                         |
| 3     | Age of onset of symptoms               | 18                                                                                                                                                                                     | 20                                                                                                                           |
| 4     | Early symptoms                         | Pain in back ribs and hips along with morning stiffness and problem in turning aside while in bed.                                                                                     | Morning stiffness, neck pain, problem in turning aside while in bed.<br>Awakening in the second half of the night.           |
| 5     | Age of detection of AS                 | Around 30 through clinical analysis                                                                                                                                                    | 25                                                                                                                           |
| 6     | Symptoms at the age of detection of AS | Bending in spine started along with severe pain in neck, back ribs and hips, restriction in chest expansion, alternating buttock pain and problem in walking as the disease developed. | Bending in spine started along with severe pain in neck, back ribs and restriction in chest expansion, late night awakening. |
| 7     | HLA B27                                | Not done                                                                                                                                                                               | +ve                                                                                                                          |
| 8     | MRI                                    | Not done                                                                                                                                                                               | Unable to perform owing to bending of spine.                                                                                 |
| 9     | X Ray                                  | Fusion in spine                                                                                                                                                                        | Fusion in spine and Sacroiliitis                                                                                             |
| 10    | CRP                                    | Not done                                                                                                                                                                               | High                                                                                                                         |
| 11    | SGPT                                   | Not done                                                                                                                                                                               | Borderline high                                                                                                              |
| 12    | Anterior Uveitis (Pain, redness)       | Not known                                                                                                                                                                              | Low frequency of occurring                                                                                                   |
| 13    | Alcohol consumption                    | Nil                                                                                                                                                                                    | Nil                                                                                                                          |
| 14    | Smoking                                | Daily but limited                                                                                                                                                                      | Nil                                                                                                                          |
| 15    | Exercise                               | Only walking owing to limited mobility.                                                                                                                                                | Almost no exercise owing to limited mobility.                                                                                |
| 16    | Treatment                              | Unregistered Doctor (Rural)                                                                                                                                                            | Competent Rheumatologist                                                                                                     |
| 17    | Medication                             | Homeopathy, Wysolone, Paracetamol.                                                                                                                                                     | Initially Methotrexate supported by Folic acid. On deterioration Remicade, Infliximab were applied.                          |
| 18    | Present Condition                      | Developed bamboo spine. Hip joint replacement done at the age of 42 and died from sepsis at the age of 47.                                                                             | Developed bamboo spine and posture crooked to almost 90°.                                                                    |

**Table 2:** Containing data of Patient III & IV

| S. No | Particulars                             | Patient III                                                                                                                                                                                                                                                               | Patient IV                                                                                                                                                                                                                                                                                                                                                  |
|-------|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1     | Date of Birth                           | 1975                                                                                                                                                                                                                                                                      | 1986                                                                                                                                                                                                                                                                                                                                                        |
| 2     | Gender                                  | Male                                                                                                                                                                                                                                                                      | Male                                                                                                                                                                                                                                                                                                                                                        |
| 3     | Age of onset of symptoms                | 24                                                                                                                                                                                                                                                                        | 19                                                                                                                                                                                                                                                                                                                                                          |
| 4     | Early symptoms                          | Problem in walking.                                                                                                                                                                                                                                                       | Only sudden back pain lasting for 5-10 minutes.                                                                                                                                                                                                                                                                                                             |
| 5     | Age of detection of AS                  | 27                                                                                                                                                                                                                                                                        | 24                                                                                                                                                                                                                                                                                                                                                          |
| 6     | Symptoms at the age of detection of AS  | Pain in neck, problem in walking, restriction in chest expansion and alternating buttock pain.                                                                                                                                                                            | Morning stiffness, problem in turning aside while in bed, pain in back rib cages, severe pain in left hip joint, problem in walking, restriction in chest expansion and awakening in the second half of the night.                                                                                                                                          |
| 7     | HLA B27                                 | +ve                                                                                                                                                                                                                                                                       | +ve                                                                                                                                                                                                                                                                                                                                                         |
| 8     | MRI                                     | Sacroiliitis                                                                                                                                                                                                                                                              | Early degenerative arthropathy in left hip joint with small joint effusion.                                                                                                                                                                                                                                                                                 |
| 9     | X Ray                                   | Sacroiliitis                                                                                                                                                                                                                                                              | Sacroiliitis in both SI joints                                                                                                                                                                                                                                                                                                                              |
| 10    | CRP                                     | High                                                                                                                                                                                                                                                                      | High                                                                                                                                                                                                                                                                                                                                                        |
| 11    | SGPT                                    | Borderline high                                                                                                                                                                                                                                                           | Normal                                                                                                                                                                                                                                                                                                                                                      |
| 12    | Anterior Uveitis (Pain, redness in eye) | Frequent                                                                                                                                                                                                                                                                  | Once in a year on average                                                                                                                                                                                                                                                                                                                                   |
| 13    | Alcohol consumption                     | Occasional                                                                                                                                                                                                                                                                | Nil                                                                                                                                                                                                                                                                                                                                                         |
| 14    | Smoking                                 | Daily but limited                                                                                                                                                                                                                                                         | Daily but limited                                                                                                                                                                                                                                                                                                                                           |
| 15    | Exercise                                | Regular walking and prescribed calisthenics exercises.<br>Stiffness diminishes with activity and returns after long period of inactivity.                                                                                                                                 | Regular walking.<br>Stiffness diminishes with activity and returns after short period of inactivity.                                                                                                                                                                                                                                                        |
| 16    | Treatment                               | Competent Rheumatologist                                                                                                                                                                                                                                                  | Competent Rheumatologist                                                                                                                                                                                                                                                                                                                                    |
| 17    | Medication                              | Initially on Sulfasalazine 500mg thrice daily. Since last two years one Methotrexate 10/15mg tablet every sunday and one Folic acid 5mg tablet twice a week except sunday, Tofacitinib 5mg twice daily.<br>Prednisolone 1%(W/V) eye drop prescribed for anterior uveitis. | Initially on Sulfasalazine 500mg thrice daily. Since last three years one Methotrexate 10/15mg tablet every sunday and one Folic acid 5mg tablet twice a week except sunday, Tofacitinib 5mg twice daily and Etoricoxib 60/90mg on SOS.<br>Prednisolone 1%(W/V) eye drop prescribed for anterior uveitis.                                                   |
| 18    | Present Condition                       | Living normal life, slight morning stiffness and little problem in walking.<br>CRP high, SGPT borderline high.<br>Other reports normal.                                                                                                                                   | Living normal life. Morning stiffness, pain in rib cages and left hip completely vanishes only upon application of Etoricoxib. Problem in walking starts owing to pain in the left hip once methotrexate and tofacitinib is stopped for more than two weeks.<br>Etoricoxib generates discomfort.<br>CRP high. SGPT, Creatinine, TC, DC, ESR reports normal. |

#### 4. Results and Discussions

The eighteen points table for four patients given above is only the necessary briefing of the prolonged discussion with patients and or with family members of the patients. The present study establishes very minor things as new; almost every and major observations noted here related to AS is well documented long ago through systematic investigations by renowned scholars. However this study though statistically very poor supports those investigations. The outcomes are:

1. Young male with a positive Human Leukocyte HLA-B27 Antigen are susceptible to AS <sup>[3]</sup>. (SI No – 2 to 7)
2. Sacroiliitis findings in X Ray and MRI confirms the presence of AS <sup>[4,6]</sup>. (SI No – 8 & 9)
3. Patients having AS show elevated levels of C - reactive protein (CRP) <sup>[11]</sup>. (SI No - 10)
4. Patients having AS may show elevated levels of Erythrocyte Sedimentation Rate (ESR) in blood tests.
5. Prescribed calisthenics exercises <sup>[12]</sup> and 45mins medium fast walking on daily basis (not recommended for heart patients) can give relief from stiffness and pain. (SI No – 15 & 18).
6. Treatment under a competent Rheumatologist is mandatory for patients diagnosed with AS. (SI No – 16 to 18)
7. Triannual blood test of CRP, Cholesterol, TC, DC, RBS and most importantly SGPT, Creatinine and consultation with Rheumatologist at least twice in a year are mandatory. (Suggestion given by Patient II, III & IV)
8. With the advancement of technology, AS is getting detected easily <sup>[6]</sup> (SI No – 1, 7-9) and use of TNF like Infliximab or JAK inhibitors like Tofacitinib is improving the quality of life of patients. (SI No – 16 to 18)
9. No remarkable impact of COVID-19 in the progression of the disease is noticed by the patients <sup>[5]</sup>.
10. Patient III & IV reported that they have found Ciprofloxacin 0.3%(W/V) eye drop to work often to treat very mild redness of eye but in case of acute redness and pain only Prednisolone 1%(W/V) eye drop works.
11. Sound sleep, rainbow salad, less spicy food, green leafy vegetables, less meat, zero alcohol and zero smoking, regular consumption of prescribed medicines, regular exercise and walking, routine blood test and regular health checkup can improve the quality of life of AS patients. (Suggestion given by Patient II, III & IV)

#### 5. Conclusion

A patient who is experiencing one or more of the mentioned symptoms must consult a Rheumatologist as early as possible. Patient diagnosed with AS must live under the guidance of a renowned Rheumatologist. The present study only can give a rough idea to the AS patients about the disease and make them conscious. Patients with low to moderate symptoms may lead a normal life if they read and follow the outcome of this paper. There is no cure but awareness and discipline can improve the quality of life of AS patients.

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#### 7. Conflicts of interest

None.

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