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ANKYLOSING SPONDYLITIS - AN AYURVEDIC PERSPECTIVE

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Abstract

Ankylosing spondylitis is included under seronegative spondyloarthropathy with an unkown etiology and a strong family history. It is having a male to female ration 3:1 with a worldwide prevalence of 0.2 to 1.4%. This disease is a HLA-B27 associated auto immune condition with a peak onset in second and third decades of life. The term ankylosing spondylitis is derived from two greek roots, ankylos and spondylos.[1] The word ankylos means bent and spondylos means disk since ankylosing of the spine occurs as the disease progresses. It has both skeletal and extra-skeletal manifestations. The main pathophysiology in Ankylosing spondylitis is autoimmune with inflammatory reactions which affect the enthesis, bone and joints. These clinical conditions later lead to the formation of syndesmophytes and spinal fusions. In Ayurveda we can include the signs and symptoms of ankylosing spondylitis under the wide spectrum of *vataraktha.* This review article deals with etiology, pathophysiology and probable view of the disease as per ayurveda along with treatment modalities.

Key words: Ankylosing spondylitis, *vataraktha*

Introduction

Ankylosing spondylitis is an auto immune disorder which is included under sero-negative spondyloarthropathies. It is having a strong family history as a risk factor with male to female ratio in early decades of life. It affects young men than women. The exact causative factor of the disease condition is unknown. Though articular involvement is more common in this disease condition, multi system level complications can be resulted as the disease progresses due to late diagnosis and improper management. In ankylosing spondylitis or A.S. we can see the involvement of bones, tendons and bone marrow with inflammatory changes. These inflammatory changes can later lead to degenerative changes with bony ankylosis. These may be co-related with the clinical presentation of *vataraktha* in which *gambheera dhatu* involvement occurs with *dhatupaka*, later *dhatu kshaya* and finally the patient becomes *khanja* or *pangu*.

Materials and methods

Ankylosing spondylitis is an HLA-B27 associated chronic inflammatory disease of unknown etiology. It is characterized by chronic inflammatory arthritis predominantly affecting the sacroiliac joints and spine which can be progressed to bony fusion of the entire spine.

Nomenclature: The term Ankylosing spondylitis is derived from the greek root ankylos which means bent and spondylos which means vertebral disk.

Prevalence: In the general population A.S. is likely to develop in about 1-2% of HLA-B27 positive adults. It is having a positive family history as a strong risk factor. This disease has a peak onset in the second and third decade with a male to female ratio about 3:1.

Pathophysiology: A.S. is thought to result from exposure to environmental pathogen in genetically susceptible individuals even though no specific trigger factor has been identified. Increased faecal carriage of Klebsiella aerogenes occurs in patients with established A.S. and may relate to exacerbation of both joint and eye diseases.

Clinical features: This include both articular and extra articular features

Articular features

- Low back pain & marked stiffness
- Morning stiffness
- Restricted movement of lumbar spine in all direction
- Restricted chest movement
- Enthesitis
- Tenderness over bony prominences

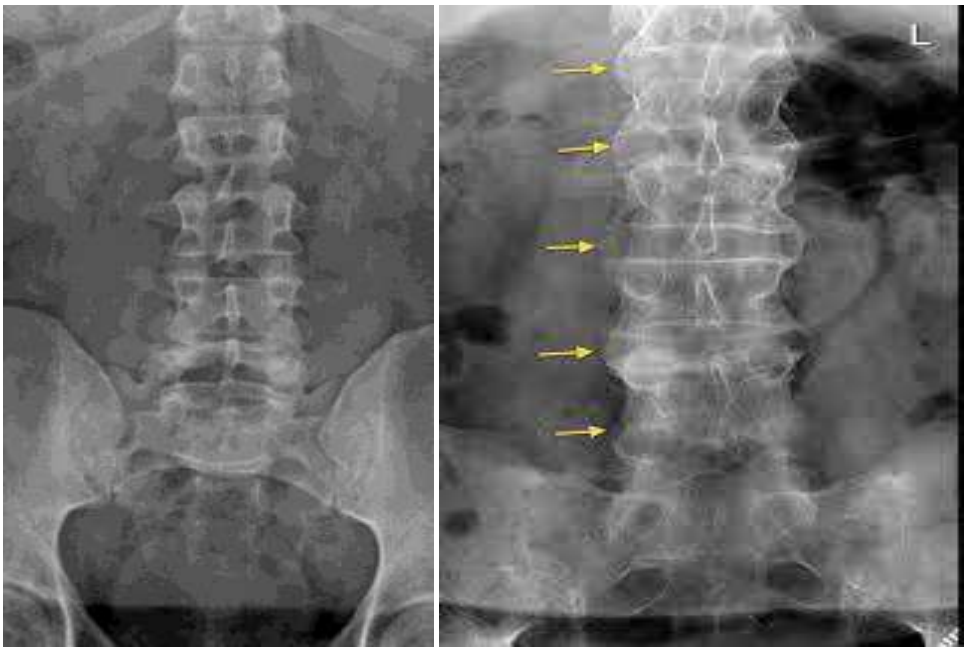
Extra articular features

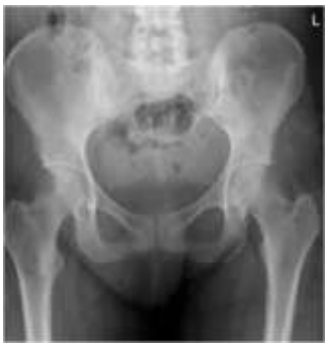
- Anterior uveitis (25% cases)
- Prostatitis(80%)
- Cardiovascular diseases
- Pulmonary fibrosis
- Amyloidosis

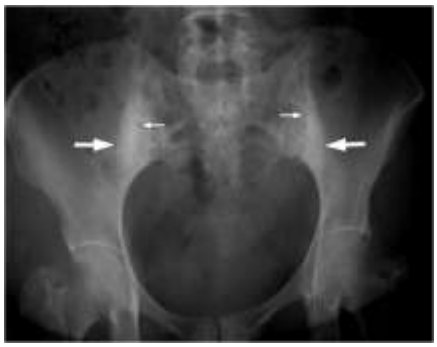
Investigations

- X-ray and C.T.: shows "Bamboo spine" appearance with bony erosions and sclerosis

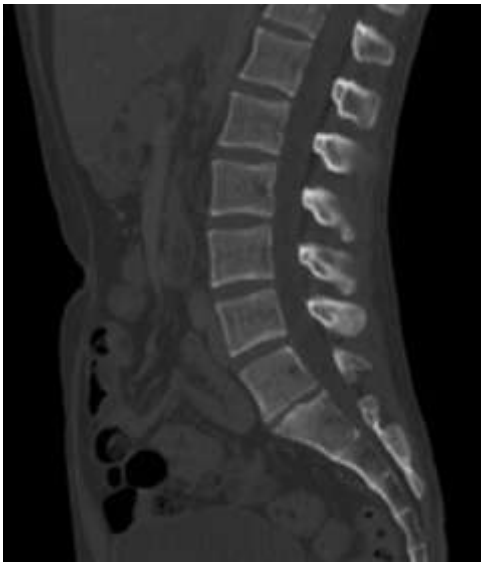
Normal X-Ray- Lumbosacral spine Abnormal X-ray of LS Spine with AS

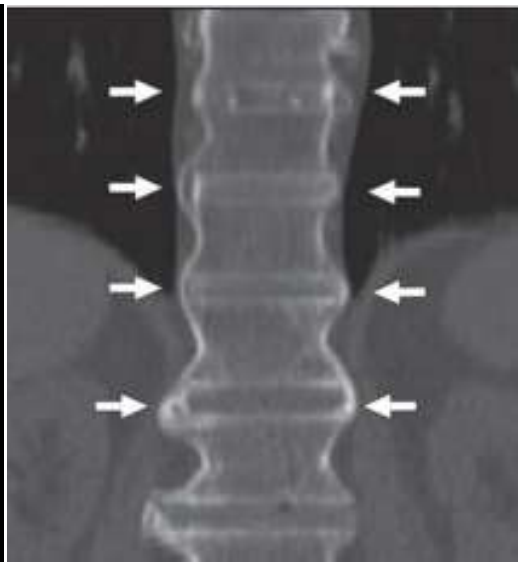






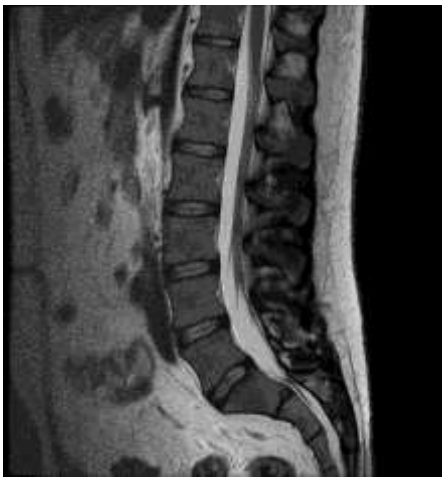
X-ray of normal SI joints **X-ray of sacroilitis**

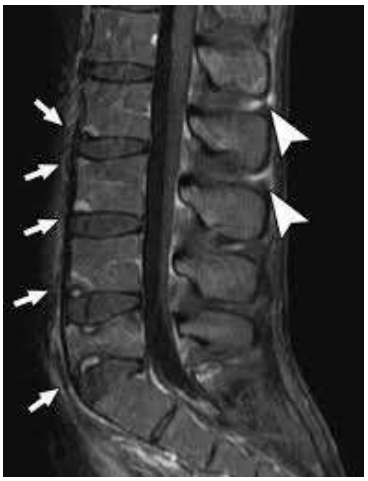




Normal CT image **AS CT image**

- MRI : MRI is found to be useful for early detection of sacroilitis





Normal MRI LS Spine MRI LS Spine with AS

- Elevated C.R.P. and E.S.R. suggest inflammatory changes

- RF and other auto antibodies are usually negative
- HLA-B27: It is found to be positive in 80% of affected patients

Diagnostic criteria: Most widely accepted diagnostic criteria of A.S. is Modified New york criteria: 1984.[2] It includes both clinical and radiographic criteria. Clinical criteria includes following three clinical presentations.

- ✓ Low back pain at least 3 months duration improved by exercise and not relieved by rest.
- ✓ Limitation of lumbar spine in sagittal and frontal planes
- ✓ Decreased chest expansion

Radiographic criteria includes following two conditions

- Bilateral sacroilitis grade 2-4
- Unilateral sacroilitis grade 3-4

Patient will be diagnosed as definite A.S. if he has unilateral sacroilitis grade 3-4 or with bilateral sacroilitis grade 2-4 and any one clinical criterion.

Conventional line of management: The main aims are to relieve pain and stiffness.

- Patient should be taught to perform daily back extension exercises including a morning warm up routine.
- Swimming and extension promoting exercises.
- NSAIDs, analgesics, Anti-TNF therapy and corticosteroids.
- Total hip arthroplasty and vertebral osteotomy is suggested when permanent disability occurs

Perspective of A.S. in Ayurveda

As per Ayurveda A.S. may be included under the wide umbrella of *vataraktha* with involvement of *rasadi dhatu*. *Snayu* is considered as the *ghaneebhoota medas*. In A.S. enthesopathy is a typical feature signifying inflammatory responses in the *upa dhatu* level. Bony erosions, sclerosis and ankylosis implies the involvement of *asthi dhatu*.

Probable mode of samprapthi in ayurveda

Due to *vidahi, Viruddha, asrik pradooshaka ahara vidagdha ajeerna* occurs is *koshta*. As a result *ama* formation occurs which when undergoes *dhatu parinama* , *vidagdha raktha* will be produced. Meanwhile if the patient consumes *vata vardhaka ahara* and *vihara* , *vatadushti* occurs and *vata* will be obstructed by *vidagdha raktha*.[3] When this *sama raktha* undergoes further *dhatu parinama*, *sama dhatus* will be formed. This can be correlated with the inflammatory reactions in bones, tendons and joints. In A.S. *dhatupaka* later progresses to *dhatukshaya* with bony sclerosis, erosions and fusions with the formation of syndesmophytes and bridging of the vertebral bodies resulting a typical bamboo spine appearance.

Chikitsa

- As *nidana parivarjana* patients are supposed to avoid *vidahi ,viruddha ahara, achamkramana seelata, vidhi heena swapna jagara maithuna*.[4]
- *Jwara chikitsa, ama chikitsa and vataraktha chikitsa* can be incorporated for the management of ankylosing spondylitis.
- *Lepa, parisheka* and abhyanga can be selected according to the clinical presentation.
- *Virechana, asthapana, Snehapana* are said to be the line of treatment of *gambheera vataraktha.*[5] *Virechana* can expel the vitiated *kapha* and *pitha* from *koshta* after proper *sneha* and *sweda*. *Sodhana* of all the three *dosha* resides in the *pakwasaya* can be done through *vasthi karma*.[6]
- As internal medications we can select yogas which can bring about *pachana* and *rakthaprasadana*. *Amrithotharam kashayam, shaddharanam gudika, kaisora guggulu* are some of the drugs of choice.
- After *pachana* and *sodhana* we can administrate *rasayana* line of management with *Gugguluthikthaka ghrita* and *Mahathikthaka ghrita*.
- *Ksheeravasthi* especially *Balaguduchyadi ksheera vasthi* [7]can be performed.
- *Ksheerabala, Madhuyasthyadi thaila* can be selected for external application.

Discussion

- As far as A.S. is concerned earlier diagnosis and management is an essential factor. As the disease progress bony fusions occurs with marked disability and bony ankylosis which later makes the patient *khanja* or *pangu.*
- For the corrections of *dhatu paka* at different level we can adopt the line of management of *jwara*. So the *vishamajwara kashaya*[8] mentioned in *Ashtanga hridaya* may be selected depending upon the involvement of corresponding *dhatu.*
- Although a precise etiology of A.S. is not identified there is need of *nidana parivarjana* as a first line of management. So we should try to identify the causative factor for the disease manifestation. We may retrospectively analyse the *nidana* factors for the prevention as well as management of the disease condition.
- *Vasthi* especially *ksheeravasthi* can be considered as the main line of treatment for A.S. as it can bring about removal of *malasanchaya* from *pakwasaya* as well as *raktha prasadana*

Conclusion

Ankylosing is a condition in which severe stiffness occurs with restricted movements and bony fusions. Earlier diagnosis and management is very essential in A.S. Even though bony fusions has occurred in A.S. *snehana* and *swedana chikitsa* can contribute for the flexibility of the spine to certain extents. The line of treatment of *asthi* and *majja gata vata* is the usage of both external and internal *sneha dravyas*.[9] Here we can utilize the *sneha prayoga* after *ama pachana* by which flexibility of spine can be improved. So in A.S. the treatment principles we should adopt are *ama pachana, samsodhana*, *raktha prasadana* and *snehana.*

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