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A 16 year Male Suffering with Ankylosing spondilitis : A case study

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Abstract: *A 16 year Male suffering with Ankylosing spondilities, was admitted in New Medical Ward. A detailed case study, and nursing care plan and nursing intervention was done. At the time of assessment the patient have severe joint pain and was unable to stand or walk. After intervention, patient started walking with crèches and stick. Now the condition was better than before .*
Ankylosing spondylitis *(**AS**) is a chronic infaammatory disease. Ankylosing spondylitis (AS) is a type of arthritis in which there is a long-term inflammation of the joints of the spine.*
But skeletons with ankylosing spondylitis are found in Egyptian mummies.
The word is from Greek ankylos meaning to unite or grow together, spondylos meaning vertebra, and -itis meaning inflammation. The condition was first fully described in the late 1600s by Bernard Connor.

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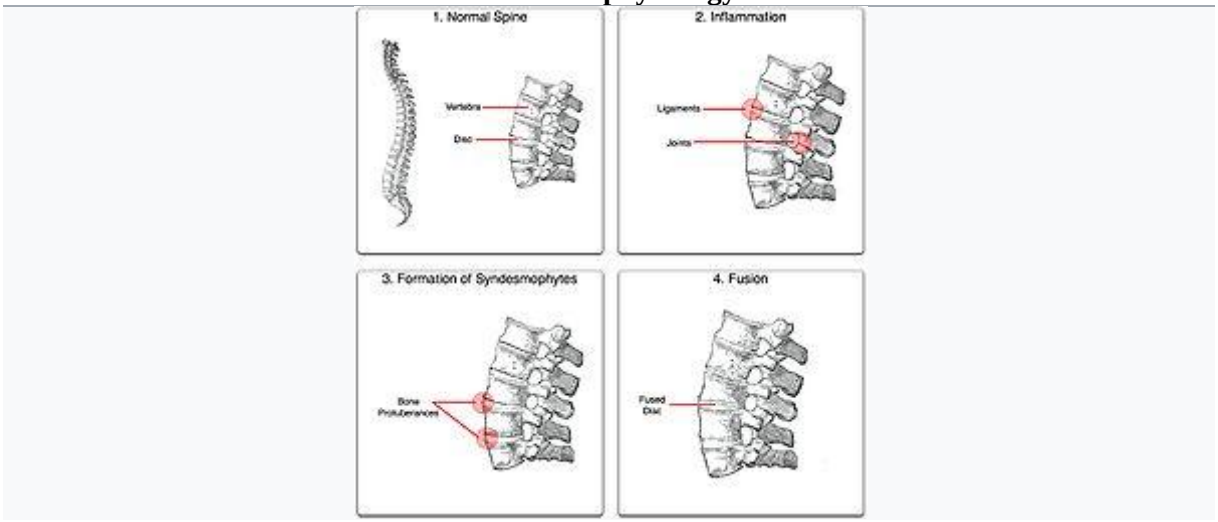
I. Pathophysiology



The ankylosis process

It primarily affects the sacroiliac joints, apophysical and costovertibral joints of the spine and adjacent soft tissues. Inflammation in joint and adjacent tissue causes the formation of granulation tissue and eroding vertebral margins, resulting spondylitis. Calcification tends to follow the inflammation process, leading to bony ankylosis. As the result of inflammation, the bone of the spine grow together and ankylose(fuse). The primary site of pathological finding is in the enthesis where ligament tendens and joint capsule insert in to the bone. In ankylosing spondilitis fibrous ossification and eventually fusion of the joint occur. The joint capsule articular cartilage, and periosteam are invaded by inflammatory cells trigger the development of fibrous scar tissue and growth of new bone. The bony growth changes the contour shape of vertebrae and form a new enthesis called a" syndesmophyte". As the spinal ligaments continue to undergo progressive calcification, the vertebral bodies lose their original contour and appear squire, which gives the spine the classic "bamboo" appearance of ankylosing spondylitis.

II. Introduction of the patient:

Name patient of the patient was Aryan Yadav
Age -16 years male, admitted in New Medical ward, Sir Sunder Lal Hospital, Diagnosed as Ankylosing spondilitis.

Chief Complains
Swelling on feet and Knee joint
Joint pain (arthralgia)
Patient unable to stand up on feet.
Acute Pain
Impaired Physical Mobility

Investigations

Test name	Result	Unit	Reference range
S. Uric Acid	5.3	Mg/dl	2.5-7.6
CRP	4.76	Mg/dl	0.6
HLA-B27	+ve		
Hb	7.2	gm/dl	13.5-18
TLC (WBC)	14250	cb/mm	4000-11000
DLC			
Neutrophil	79	%	50-70
Lymphocytes	16	%	25-40
PLT	8.68	Lac/cu.mm	1.5-4.5
RBC	27500	Micro/l	4.7-6.1X(10)6
Creat/urea	0.6/25.3	Mg/dl	.5-1.4, 15-45
Na/K	138.2/4.6	Mmol/l	135-145, 3.5-5.5
SGOT/PT	26/24	Micro/l	5-40
TBil./DBil.	0.3/0.2	Gm/dl	0.01-1.2/0.01-0.3
TP/ALP	9.2/3.3	Gm/dl	6.4-8.5/3.2-5.3
ALP	4.7	U/L	110-310
DLH	132	U/L	105.0-248.0
ESR	12	mm/h	0-10
HCT	20.60	%	37-54

Prescribed medicine
Tab SAZZ (sulfasalazine) 500mg TDS, Tab Etoricoxib 120mg SOS, Tab P650 SOS, Tab Ferron XT 1BD Tab shelcal BD, Cap Omidure 1BD, Tab olic (5) 1 tab weekly, Tab Vitcofol 1 BD , Tab oncotrex 7.5mg weekly, Tab omnacortil 20mg TDS, Tab Tryptomer 10 mg HS, and TPR Monitoring 4-6 hourly

Past History
Patient was having typhoid Fever previously (1 month ago)
Patients joint stiffness started at the age 8years when he accidentally fall from roof.
Joint pain is severe in the changing seasons in Oct, Nov, Feb and March months of following years.
Patient says that every one in the family is fed up by his problem.

Family Tree
- **1st Generation** : Grand Mother was not affected but Grand Father was affected with Ankylosing spondilitis.
- **2nd Generation :** Mothers were not affected , In five Brothers, Fourth one was affected with Ankylosing spondilitis
- **3nd Generation:** Fourth brother have three children , Third Son was affected with Ankylosing spondilitis.

Causes
Although the cause of ankylosing spondylitis is unknown Specific Human Leukocyte Antigen known as the HLA-B27 antigen is found to be positive in the patient.
It is believed that combination of genetic and environmental factors are responsible for disease.

Nursing assessment
History and physical assessment

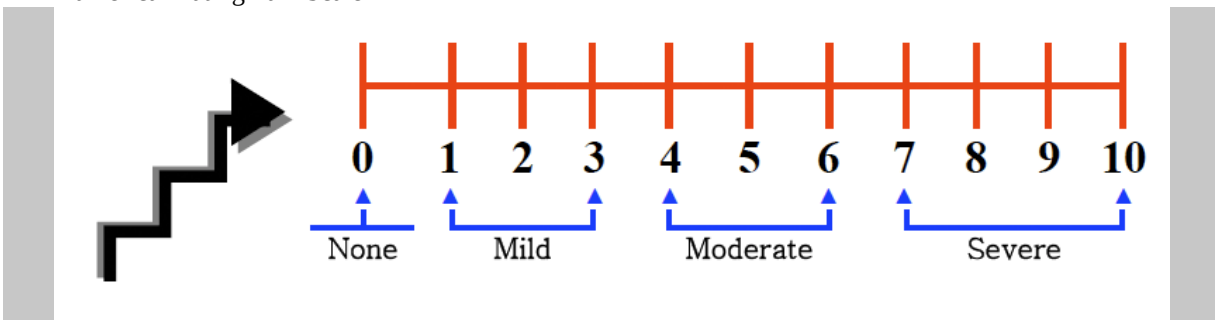
Subjective Data:
- ✓ Low back pain, stiffness
- ✓ Fatigue

Objective data:
- ✓ Patient's vitals were with in normal range
- ✓ Patient is having pain in knee flexion.
- ✓ Tenderness over spine or sacroiliac region.
- ✓ Unable to stand and walk.

Nursing Diagnosis
Pain related to inflammation and stiffness in joints
Ineffective breathing pattern related to reduced chest expansion secondary to vertebral spine involvement.
Impaired physical mobility related to hip joint inflammation and pain.
Self care deficit related to reduced mobility.
Nursing Diagnosis
Fatigue related to pain and fever.
Body image disturbance related to change in body appearance, due to loss of spinal mobility.
Knowledge deficit related to prognosis of disease condition and therapy.
Risk for injury related to improper gait and balance.

III. Nursing Intervention

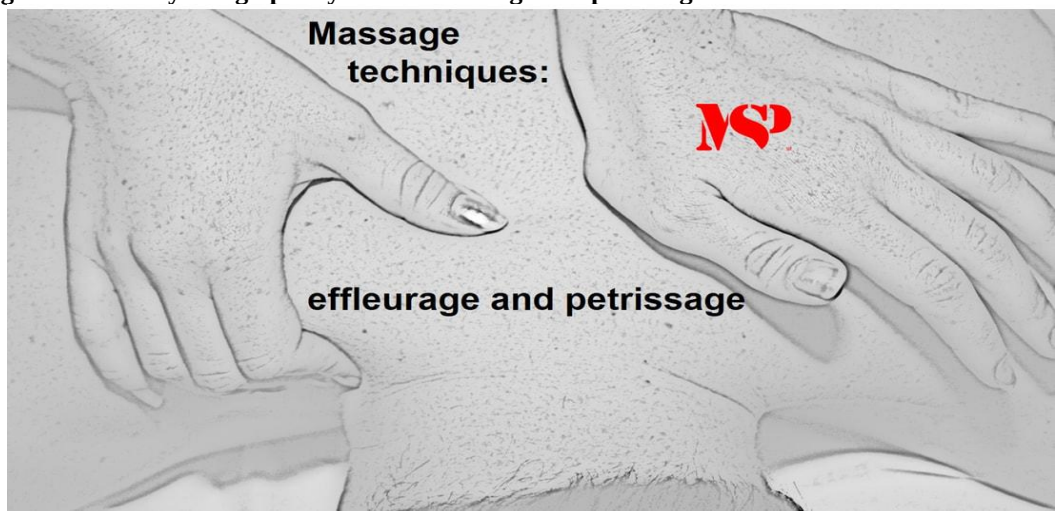
1. **Reducing Pain and Inflammation to measure pain pain scale**
   Numerical Rating Pain Scale



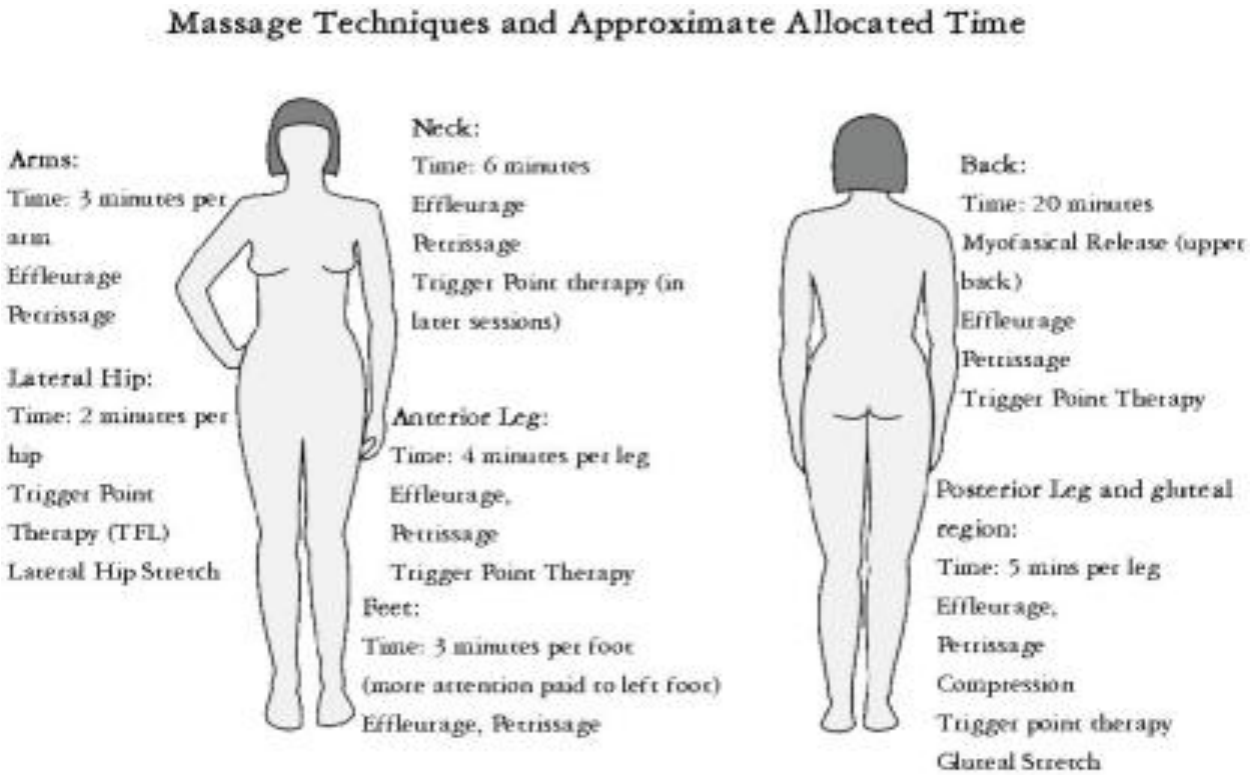
NIH / Warren Grant Magnusen Clinical Center
Perhaps one of the most commonly used pain scales in health care, the numerical rating scale is designed to be used by those over age 9. If you use the numerical scale, you have the option to verbally rate your pain from 0 to 10 or to place a mark on a line indicating your level of pain. Zero indicates the absence of pain, while 10 represents the most intense pain possible.
This scale is used to measure the pain in the patient at the beginning of assessment pain was 7-8 (severe)

Apply heat packs at affected area.
Give anti inflammatory analgesics as prescribed.
Encourage diversional activities.
Massage therapy was also find to be effective for pain relief.
Massage therapy can do wonders for muscle pain and stiffness.
Soft tissue massages work the best to both relieve symptoms and eliminate stress.
Patient's family (Mother) uses special oils to help with the inflammation and pain e.g. Sandhi Sudha.
Massage Relieves Ankylosing Spondylitis

Massage used in Ankylosing Spondylitis is effieurage and petrissage



Nursing Intervention



2. Promoting Effective Breathing

Ongoing assessment of chest wall expansion.

A normal adult chest should expand about 2 to 5 inches when the subject takes a deep breath. The inability to expand your chest normally may be an indication of a lung problem, chronic obstructive pulmonary disease or a spinal issue. Have your chest expansion measured to spot any potential problems that may require medical intervention.

Step 1: Locate the fourth intercostal space, between the fourth and fifth ribs on the front of the subject's chest. Have the subject place his hands on his head, then position the tape measure around the subject's chest at the level of the spot you located.

Step 2: Ask the subject to breathe in as far as possible. Take your measurement.

Step 3: Instruct the subject to breathe out as far as possible and not to breathe in until you tell him to do so. Take your measurement, then note the difference between this number and the number you noted in Step 2. The difference between the two numbers represents the subject's chest expansion.

Step 4: Repeat the measurement process and record the larger number

At the time of assessment it was 1 to 3 inches, after intervention it was 2 to 4 inches chest expansion was recorded.

Instructions in deep breathing exercises can help the patient to maintain optimal breathing.

Deep inspiration through nose and slowly expiration through mouth is effective and explained to the patient.

Nursing Intervention

3. Promoting Mobility

Suggest that the patient perform exercise after moist heat application, because warm moist heat Prompts mobility.

Stress the importance of the following the prescribed physical therapy and exercise program to maintain mobility.

Assist in range of motion exercises 3 times a day.

Exercises for Ankylosing Spondilities

Nursing Intervention

4. Reducing Fatigue

Ask to take rest periods alternating activity or provide adequate rest to reduce fatigue.

Promote daily activities and self care with in therapeutic levels.

Good pain control can significantly reduce fatigue Patient was encouraged to take analgesia(Tab Etoricoxib 120mg SOS) and prescribed medicine effectively

Nursing Intervention

5. Preventing Deformity and Joint Protection

Lessen forces on the joints, both internal ie. Muscular compression e.g. strong grip and external (i.e. forces applied to joints during activities such as carrying) forces should be considered.

Nursing Intervention

6. Providing Psychological Support

Encourage patient to express feeling about change in body image.

Compliment patient on each improvement in mobility

Discharge and follow-up :

Patient was discharged on 03/10/19 with prescribed medicine.

At the time of assessment pain was 0-2 (none to mild)

Exercises advised to do as prescribed

Patient started walking with crèches and stick.

Now the condition was better than before.

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