Dr. Babasaheb Ambedkar Medical Research Society

MEDI-SEARCH

Towards Healthier Tomorrow

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From the editors' desk .....

Dear readers

Doctors are the best counselors. If we imagine the amount of talk we have with the patients in our OPD practice, it amounts to least 5 times of what a Radio jockey does in a day. The point is that this talk should be rightly directed. Not only should we try to extract history to reach a correct diagnosis but we should also try to feed good inputs that help to improve lifestyle measures, habits & behavioral pattern.

We always crib about the prevailing circumstances around us & expect them to change. But who will bring about this change? Answer is simple- doctors. We come in contact with people from varied fields as our patients. They not only respect us but give us an image next to God. By virtue of this powerful image we are bigger than any other source of motivation be it books, or newspapers, Television.

Positive attitude, focused & hard work, daily exercise/ recreational activities, meditation along with other aspects like prioritizing family needs, improvising on behavioral grounds, economic & academic progress are some of the points we can emphasized as an important part of treatment. Patients can be convinced by letting them know that the above achievements will not only create harmony but will easily help them to get rid of their medical ailments.

Rheumatology is one such field where Chronic joint problems that are difficult to classify, diagnose & even more difficult to treat; can be handled in a better way by focusing on the above issues. This edition of medisearch focuses on the approach to such Rheumatological joint disorders.

-Editors.

IN THIS ISSUE

Approach to joint symptoms

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This discussion is a comprehensive approach to joints problems pertaining to the adult population. Patients with joint problems have various symptoms like pain, swelling in & around the joints & decreased range of movements. To have a basic understanding one must be aware of a few terminologies.

Arthralgia- Joint pain without signs of inflammation.

Arthritis- joint pain along with signs of inflammation like redness, warmth, swelling & loss of function.

Significant early morning stiffness- Stiffness in joints should be for more than 30-45 minutes.

Inflammatory joint pain- Joint pain which increases with rest & decreases with movement & associated with significant morning stiffness; e.g. Rheumatoid Arthritis(RA).

Mechanical joint pain- Joint pain which increases with movement & decreases with rest; e.g. osteoarthritis & long standing RA.

Inflammatory Back pain- Inflammatory back pain is associated with significant morning stiffness & has characteristic inflammatory nature. It is seen in sero negative spondyloarthropathy.

Mechanical Back pain- mechanical back pain is not associated with stiffness & has a mechanical nature. It is seen in patients with lumbar spondylosis & prolapsed intervertebral disc.

Pain in joints can be ***true joint pain*** or pain ***of peri-articular lesions***. Other causes can be neurogenic or referred pain.

True joint pain is associated with pain in all ranges,
pain on active & passive movements,
no exacerbation on resisted movement,
Restricted Joint movement due to swelling or structural damage,
Presence of Joint line tenderness,
Presence of crepitus in damaged joint.

Periarticular pain (inflammation of periarticular structures), has selectivity of painful movements. Pain is worse in position that induces compression of inflammed structures, active movements are more painful than passive movements & passive movement is not limited in periarticular lesions.

In **referred pain** maximal site of pain is ill-defined & pain improves by rubbing the area.

Characterization of Inflammatory joint disease is essential to reach to a logical diagnosis. The following points need to be elucidated in the patients with joint symptoms age at the onset of symptoms, sex & occupation of the patient, family history of arthritis, psoriasis, food habits, menstrual status in females, H/o addictions, H/o blood transfusions & co morbidities like diabetes, hypertension etc.

Characterization of Arthritis-

Number of joints affected Monoarthritis: one single joint affected

- Oligoarthritis: 2–4 joints affected
- Polyarthritis: >4 joints affected

Acute versus chronic

- Acute: onset in hours or days
- Chronic: onset over weeks or months (generally 6 weeks or more)

Additive versus migratory

- Additive: the affected joints are added progressively.
- Migratory: the inflammatory process flits from one joint to another.

Persistent versus recurrent

- Persistent: once it has set, the arthritis persists over time (persistent ≥ 6weeks)
- Recurrent: episodes or crises of arthritis separated by symptom-free "intercritical" intervals

Predominantly proximal versus predominantly distal

- Proximal: arthritis mainly affects large joints – that is, proximal to the wrist or ankle & the spine
- Distal: the arthritis mainly affects the small joints of the hands and feet, with or without the wrist and ankle
- Large and small joints affected – there is a mixture of joint sizes

Symmetrical versus asymmetrical

- Symmetrical: affects approximately the same joint groups of each side of the body
- Asymmetrical: there is no clear relationship between the joints affected on either side of the body

With or without inflammatory low back pain

With or without systemic manifestations (as in **Table 2**.)

Following are a few characteristic examples-

Acute Monoarthritis-

Two common causes are Crystal arthritis (Gout) & Septic arthritis. Other causes reactive arthritis, psoriatic arthritis, bacterial endocarditis, post-traumatic synovitis, palindromic rheumatism.

Characteristics features of Crystal arthritis **(Gout)** -:

1) Very rapid onset of pain & swelling (within 6-24 hours),
2) Very severe pain,
3) Marked tenderness,
4) Florid synovitis with tense effusion, adjacent soft tissue swelling & overlying erythema,
5) self-limiting episodes, even without treatment, over a few days to weeks.

Characteristic features **Septic arthritis**:

1. Acute or subacute onset of pain,
2. Swelling & sometimes erythema in a single joint.
3. Symptoms are progressive & do not plateau in the first 24 hours.
4. Systemic symptoms like fever, malaise.
5. Common in children & adults with long standing Rheumatoid Arthritis & diabetes. It is a medical emergency and requires rapid attention.

Acute polyarthritis

The common causes include viral arthritis, reactive arthritis, non rheumatological diseases like lepra reactions etc. In viral arthritis the inflammatory signs are less as compared with symptoms whereas in reactive arthritis there are florid signs of inflammation and classical synovitis is evident.

Chronic Mono/Oligoarthritis-

The common causes are-

Infection (brucella, Mycobacteria, lyme disease)
Juvenile idiopathic arthritis (JIA),
Reactive arthritis, Seronegative spondyloarthropathy (SSA)
Non inflammatory arthropathy eg. Frozen shoulder, Osteonecrosis, CRPS, neuropathic joints, tumors & Osteoarthritis.

JIA has six varieties, out of which oligoarthritis is common. *Reactive arthritis* can be persistent & become chronic, even though its onset is of acute nature. *SSA* is associated with inflammatory back pain, however it can rarely present as peripheral arthritis only.

Chronic Symmetrical additive peripheral polyarthritis

The diseases include Rheumatoid arthritis, SLE, Osteoarthritis with CPPD (Calcium pyrophosphate disease), Psoriatic arthritis, Mixed connective tissue disease, Sjogren's syndrome, chronic polyarticular gout, polymyositis, polymyalgia rheumatica, vasculitis.

Rheumatoid arthritis (RA) is the commonest & generally has symmetric involvement of both large & small joints. Its diagnosis is based on clinical symptoms with lab parameters & not merely on the presence of rheumatoid factor positivity. Constitutional features such as fever & lymphadenopathy suggest a "systemic syndrome".

Chronic asymmetrical oligo/polyarthritis-

This type of pattern is seen mainly in seronegative spondyloarthropathy(SSA). Presence of dactylitis adds to the diagnosis although it is not mandatory. *Psoriatic arthritis* is most common cause of such pattern which can be seen without active skin lesions. A positive family history helps in its diagnosis. Other causes include atypical presentation of Ankylosing spondylitis, incipient rheumatoid arthritis, juvenile idiopathic arthritis, polyarticular gout, OA with CPPD & Behçet's disease.

Proximal oligoarthritis

Patients with SSA may present with involvement of proximal joints only. Appropriate history & clinical examination is often helpful for diagnosis in such cases. The presence of inflammatory low back pain, a personal or family history of psoriasis, inflammatory bowel disease, ankylosing spondylitis, uveitis, & the occurrence of any infectious disease (infectious diarrhoea, urinary tract infection) in the weeks preceding arthritis must be explored in the enquiry. Other causes of proximal oligoarthritis include Behçet's disease, juvenile idiopathic arthritis and incipient rheumatoid arthritis. occasionally such patients are difficult to fit into a particular diagnosis and then they are called as unclassifiable arthritis.

Arthritis of Limb girdle

Patients with polymyalgia rheumatic, which is a disease of elderly, present with this pattern of illness. There is pain & stiffness in the neck, shoulders & hip area. Peripheral joints can be involved. Malaise, fever, fatigue, anorexia & weight loss are common features. Jaw claudication, temporal headaches & loss of vision suggest associated temporal arteritis.

Inflammatory back pain

Inflammatory back pain is a typical manifestation of seronegative spondyloarthropathies viz; ankylosing spondylitis, psoriatic arthritis, Reiter's syndrome, spondylitis of inflammatory bowel disease. Other conditions to consider are Behçet's disease & infectious or aseptic discitis. Ankylosing spondylitis is associated with involvement of spine. Peripheral arthritis is rare & if present, associated features must be explored to reach the diagnosis.

It is imperative to know whether the affected joint is merely inflamed or damaged by the disease process. A few clinical points (as in Table 1) can guide us in arriving at the above conclusion.

Table no. 1: Shows the clinical differences between Inflammed & damaged joints.

Features	Inflammed joints	Damaged joints
Early morning stiffness	Prolonged	brief
Inactivity stiffness	prolonged	brief
Increased warmth	+	-
Capsular swelling	+	+/-
Effusion	+	+/-
Coarse crepitus	-	+
Mal-alignment/ Deformity	-	+
Instability	-	+

Rheumatological diseases are associated with systemic features.

These systemic features need to be looked up in the light of the knowledge of Rheumatology in order to suspect inflammatory disease process rather than the common infectious ailments.

Table no. 1 enlists the common constitutional symptoms, skin, mucosal, ocular & other manifestations seen in Rheumatological diseases. In general Fever, skin rash & other features suggestive of Vasculitis is an important pointer towards Rheumatological disorders.

Table 1. Systemic features associated with common rheumatological diseases

Manifestations	Associated diseases*
Constitutional manifestations	
Fever, weight loss, severe fatigue	Rheumatoid arthritis, SLE, systemic sclerosis, MCTD, vasculitis
Skin manifestations	
Photosensitivity, alopecia	SLE
Scleroderma, telangiectasia, livedo reticularis	Systemic sclerosis, MCTD, overlap syndromes
Heliotrope rash, Gottron's Papules	Dermatomyositis
Raynaud's phenomenon	Idiopathic Raynaud's phenomenon, systemic sclerosis, SLE, MCTD
Mucosal manifestations	
Oral and genital ulcers	SLE, Behçet's disease
Dry eyes and mouth	Sjögren's syndrome, rheumatoid arthritis
Serositis	SLE, rheumatoid arthritis
Uveitis	Reactive arthritis, ankylosing spondylitis, and other vasculitis
Others	
Arterial or venous thrombosis	Vasculitis, antiphospholipid syndrome
Recurrent abortion	Antiphospholipid syndrome
Dysphagia	Systemic sclerosis
Dyspnoea	Connective tissue diseases
Lower limb oedema, hypertension	Connective tissue diseases
Lymphadenopathy	Connective tissue diseases
Muscular weakness	Myositis, overlap syndromes
Convulsions, psychosis	SLE, vasculitis
Peripheral neuropathy	Vasculitis

*In approximate descending order of prevalence, MCTD, mixed connective tissue disease; SLE, systemic lupus erythematosus

Diagnostic tests in Rheumatology

There is limited usefulness of diagnostic tests in rheumatology practice. Most of the tests like RA factor, ANA (Anti-Nuclear Antibody), ANCA (Anti Neutrophil Cytoplasmic Antibody), Anti CCP antibodies may be positive in normal population & relatives of patients with such diseases. The exact prevalence of such false positive test reports differ with prevalence of the disease & age of the target population. It is of limited value to order any of such tests unless there is clinical suspicion of a particular disease.

Ordering a battery of laboratory tests will more often than not introduce false-positive information, noise and cost rather than clarifying the diagnosis.

Further Reading:

1 Harrison's Principle of Internal Medicine, 18th edition
2 Kelley's Textbook of rheumatology, 8th edition

Now its Quiz time !

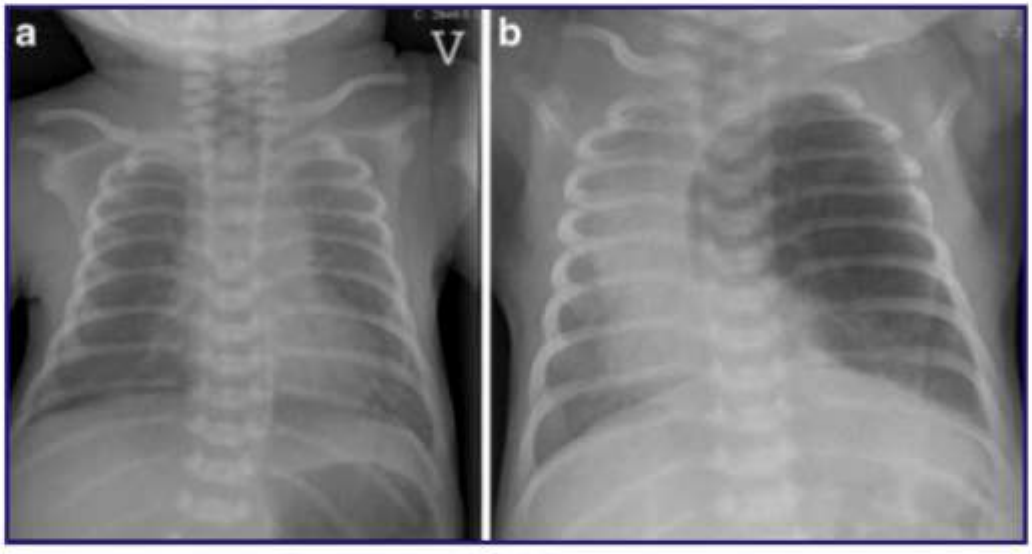
Case

A term neonate (3.2 kg), delivered vaginally, meconium stained liquor, had no respiratory distress at birth, Photograph 'a' was the chest radiograph taken on day one which was normal. Three days later there were increasing respiratory problems (increased work of breathing), tachycardia with normal NIBP.

Photograph 'b' was the chest radiograph taken on day 3.

Questions

1) What is the diagnosis?
2) What further test should be done to find out the etiology?



First Three Winners will get Attractive Prizes.

Please send your answers at the following address within a week of receipt of this volume
Your answers are welcome

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