

“2016 Novel Guideline” Approaching Towards Joint Pain

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Abstract

In the history of the patient with joint pain we have to know whether or not the joint pain is mechanical or inflammatory, acute or chronic and traumatic or non-traumatic. In the physical examination of the patient, it should be determined whether or not the origin of the pain is articular, peri-articular, extra-articular or referral. In case of articular pain, the pain can be due to Arthralgia, Arthrosis (osteoarthritis) or Arthritis. For the detection of arthritis, we need at least two points from below items along with tenderness of joint; swelling: 2 points, warmth: 1 point, limitation of motion: 1 point and redness: 1 point. We have to know three data regarding patient including: Age, Sex and Race. We have to evaluate ten key items regarding arthritis including: 1- The confirmation of arthritis 2- Acute versus chronicity 3- Mono, oligo or polyarticular typing 4- Symmetric versus asymmetric typing 5- Migratory, additive or synchronized pattern 6- Small versus large joint involvement 7- Upper limb versus lower limb involvement 8- The presence of axial involvement 9- The presence of muscle involvement 10- The presence of extra musculo-skeletal (systemic) involvement. For approaching towards joint pain we follow two rules called “The Rules of Ninety five percent”. The first rule represents us that, the role of history, physical examination and Para-clinics in diagnosis is 60%, 30% and 5% respectively. The second rule shows us that in the medicine the 95% is actually equal to 100%. These above two rules are accurate in 95% of the cases and this was “2016 Novel Guideline” approaching towards joint pain.

Keywords: Join Pain, Osteoarthritis, The Rules of Ninety five percent, 2016 Novel Guideline

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Letter to Editor

In the history of the patient with joint pain we have to know whether or not the joint pain is:

- Mechanical or inflammatory
- Acute or chronic and
- Traumatic or non-traumatic.

Joint pain that is initiated or increased with daily activity/exercise and finished or decreased with joint resting is called mechanical joint pain. There is not any significant morning stiffness along with this pain [1].

The pain and stiffness for a few minutes at the initiation of movement of a joint after prolonged resting is called “Gelling pain” or “Gelling phenomenon”. It can be usually seen in joints with mechanical pain [2].

The pain within resting joints that is finished or decreased with daily activity/exercise is of inflammatory type. It is accompanied by morning stiffness of 30 minutes or more [3].

The joint pain before 6 weeks of duration is called acute, whereas the joint pain with duration of 6 weeks or more is chronic [4].

When the joint pain is started after trauma, it can be called Traumatic type, so, in opposite it is Non-traumatic [5].

In the physical examination of the patient with joint pain, it should be determined whether or not the origin of the pain is:

- Articular
- Peri-articular
- Extra-articular or
- Referral

We don't want to explain the peri/extra-articular pain or referral pain here.

In case of articular pain, the pain can be due to

- Arthralgia
- Arthrosis (Osteoarthritis) or
- Arthritis

When the joint pain is of articular origin and the only physical finding is joint tenderness, the problem is arthralgia [4].

Polyarthralgia is a non-specific feature and inflammatory Polyarthralgia is the common manifestation of many disorders including [6]:

- Viral/infectious diseases
- Connective tissue diseases
- Vasculitides
- Malignancies including leukemia/lymphoma, and so on

Mechanical polyarthralgia can be occurred during overuse syndrome and it is accompanied by multiple periartthritis.

Arthrosis or it is better to say Osteoarthritis (OA) is a mechanical disease of joint in which tenderness and crepitation in the physical examination of joint are along with mechanical joint pain in the history of the patient [7].

Osteoarthritis (OA) can be localized such as:

- Knee OA
- Hip OA
- Hand OA
 - Heberden's node or DIP OA
 - Bouchard's node or PIP OA
 - Rhizarthrosis or CMC1 OA, and so on
- Foot OA
 - Hallux Rigidus or MTP1 OA
 - Lisfrance or Instep OA and so on
- Spine OA and
- OA of other joints

When at least 3 sites out of above 6 sites of joints are involved by OA; it is called "Generalized OA" or "Kellgren more disease" [8].

When the joint pain is due to articular inflammation it is called "Arthritis" or "Synovitis" in Synovial joints [9].

Physical examination of the joints looking for arthritis is the key step in approaching towards joint pain.

The "STWLR" system is an instrument using for detection of Arthritis that is including below items:

- | | |
|------------------------|----------|
| • Swelling | 2.points |
| • Tenderness | T |
| • Warmth | 1.point |
| • Limitation of motion | 1.point |
| • Redness | 1.point |

For the detection of Arthritis, we need at least 2 points from above

items along with tenderness.

There are two exceptions in which we may have arthritis without joint tenderness including:

- Adults with neuropathy and Arthritis
- Children with pre-school ages and Arthritis

They can have joint swelling with or without any other items but without tenderness.

We have to know three data regarding every patient with Arthritis including:

- Age
- Sex and
- Race

The different diseases with Arthritis have individual age at onset, gender and race tendency [10].

For example age at onset for some cases are presented here:

- Acute Rheumatic Fever: Childhood
- Systemic Lupus Erythematosus: Childbearing ages
- Rheumatoid Arthritis: Middle to old ages.

Some examples regarding the influence of sex upon the diagnosis:

- Reiter syndrome and Gouty arthritis are commonly occur in men.
- SLE and RA can commonly be seen in women.

And some examples regarding the influence of race upon the diagnosis:

- Granulomatosis with Polyangiitis (GPA) and Microscopic Polyangiitis (MPA) are more common among Whites.
- Sarcoidosis can often be seen in Blacks.

We have to evaluate 10 key items regarding Arthritis including:

- The confirmation of Arthritis
- Acute versus chronicity
- Mono-, Oligo- or Polyarticular typing
- Symmetric versus Asymmetric typing
- Migratory, Additive or Synchronized pattern
- "Small" versus "Large" joint involvement
- "Upper limb" versus "Lower limb" involvement
- The presence of "Axial joint" involvement eg, Spondylitis and/or Sacroiliitis
- The presence of "Muscle" involvement eg, Myositis
- The presence of "Extra-musculoskeletal" (systemic) involvement

We deliver some cases with Arthritis here that variety within above key items guiding us towards the special diagnosis for example:

Case 1: The acute asymmetric oligoarthritis of knee(s) and/or ankle(s) (large joints of lower limb) in a young man is compatible with Reactive Arthritis or Reiter's syndrome.

Case 2: The combination of acute polyarthritis and skin rash especially Malar rash, photosensitivity, oral ulcer, alopecia and,... in a young woman guide us towards the diagnosis of Systemic Lupus Erythematosus (SLE).

Case 3: The chronic symmetric polyarthritis of small and large joints of upper and lower limb with additive or synchronized pattern without axial involvement in a middle aged or old woman is compatible with the diagnosis of Rheumatoid Arthritis (RA).

Case 4: The acute migratory polyarthritis along with fever and pancarditis in a child with recent history of pharyngitis guide us towards the diagnosis of Acute Rheumatic fever (ARF).

Case 5: The hyper-acute (<24-48 hours) monoarthritis of MTP1 joint in an obese man with middle age that is heavy alcohol drinker is an unique picture for Gouty arthritis.

Case 6: The combination of oligoarthritis of knee(s) and/or ankle(s), recurrent oral aphthosis, erythema nodosum in legs and panuveitis in a young man in Asia around the ancient Silk Road guide us towards the diagnosis of Behcet's Disease (BD).

For approaching towards joint pain we can follow two rules called "The Rules of Ninety five (95%) percent":

- "The Rule of Ninety five (95%) percent (I)"¹
- "The Rule of Ninety five (95%) percent (II)"¹

The Rule of Ninety five (95%) percent I represents us that, the role of history, physical examination and para-clinic in diagnosis is 60%, 30%, 5% respectively. On the other hand the role of clinics in diagnosis is about 90% and within 5% of cases, paraclnics can make a diagnosis.

The role of history in diagnosis may be variable in different countries due to the difference within education, culture and so on.

When this role is very low, then the physicians have to compensate it by an accurate physical examination.

The Rule of Ninety five (95%) percent II shows us that in the medicine, the 95% is actually equal to 100% whereas in the mathematics the 95% is not equal to 100% and their difference is equal to 5%.

If we want to get the target point of 100% accuracy in diagnosis it needs many hours spending, a lot of money and doing many procedures including invasive and non-invasive. On the other hand in medicine the distance between 95% and 100% accuracy is too far. So, it is better for us to believe that the 95% accuracy is the end of our target in accuracy for diagnosis.

For using this rule the physician has to take away his/her obsession.

These above two rules are accurate in 95% of the cases in Rheumatology. On the other hand in only 5% of the patients in Rheumatology, the diagnosis can be established upon paraclnics, where, the history and physical examination alone could not make a diagnosis. And this was: "2016 Novel Guideline" approaching towards joint pain.

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1- These Rules are the author hypothesis and not mentioned elsewhere.

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