

# Rheuma Facts®

A Quarterly Magazine

Serving physicians with interest in Rheumatology

14<sup>th</sup> Issue

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Dr. Ahmad Iqbal Mirza

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## Current News

### Brisk Walking Delays Knee Replacement in Osteoarthritis

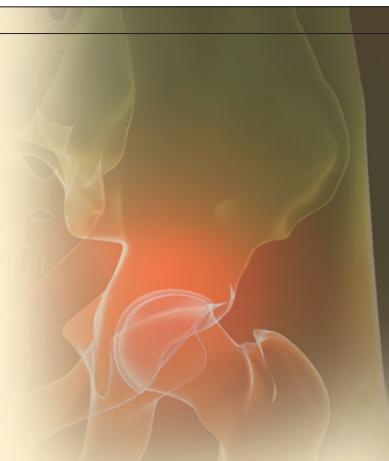
CHICAGO — For people with knee osteoarthritis, or at high risk for it, a brisk walk for just 5 minutes a day can lower the risk for total knee replacement over 5 years, results from a new study show. Previous literature has been mixed on whether walking briskly is beneficial or could cause further injury in this patient population, said Hiral Master, PT, who is a PhD candidate in physical therapy at the University of Delaware in Newark.

This study "is a starting point for people with knee osteoarthritis," she said here at the American College of Rheumatology 2018 Annual Meeting.

For their 5-year study, Master and her colleagues identified patients enrolled in the Osteoarthritis Initiative for 48 months who had not undergone total knee arthroplasty during that study period.

# Rheuma Facts®

A Quarterly Magazine



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# Rheumatoid Arthritis in Primary Care

Compiled and summarized by:

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Rheumatoid arthritis (RA) a systemic, inflammatory autoimmune disease that primarily affects the joints-leads to significant morbidity and even increased mortality.<sup>1</sup> One of the best ways to reduce morbidity and mortality associated with RA has emerged over the past decade. A combination of early diagnosis and institution of appropriate therapy, ideally within 6 months (or sooner) of the onset of the first symptoms.<sup>1,2</sup>

## Rheumatologist Shortfall

However, there is a growing shortfall of rheumatologists. A recent American College of Rheumatology workforce study predicted a nationwide shortage of providers by 2030,<sup>3</sup> leaving patients who have rheumatologic conditions seriously underserved.

## A Critical Role for Primary Care

Management of RA by primary care physicians (PCPs) will become increasingly necessary. PCPs can play a critical role in the early diagnosis and referral of patients with RA and work with rheumatologists in co-managing established disease.

In particular, given the growing understanding that early diagnosis and treatment of RA can lead to long-term improved outcomes, PCPs can contribute by recognizing the signs and symptoms of RA early so that appropriate referrals and treatment can be implemented in a timely fashion. In addition, given the declining number of rheumatologists, primary care may play a greater role in the initiation and management of long-term therapy.

## Recognition, Referral and Co-management

As such, this Special Report on Rheumatoid Arthritis in Primary Care aims to help primary care physicians recognize patients who have RA and appropriately refer them, as well as provide insight into co-management strategies. Topics will include:

- Making a diagnosis of RA-classification criteria, history, physical exam, lab studies,

imaging

- Referral and initial pharmacologic management of RA
- Common medications currently used in the treatment of RA
- RA co-management with rheumatologists
- Future directions in RA management

## A Rheumatoid Arthritis Multiple-choice Aimed at Primary Care Physicians:

### Question 1

Which of the following are items included in the 1987 American College of Rheumatology classification criteria for rheumatoid arthritis?

- A. Morning stiffness > 1 hour and arthritis of  $\geq 3$  joint areas
- B. Hand arthritis and symmetric arthritis
- C. Nodules and radiographic changes
- D. A, B, and C
- E. A and C but not B

The correct answer is D

### Question 2

How are the 2010 ACR/European League Against Rheumatism classification criteria different from the 1987 ACR criteria?

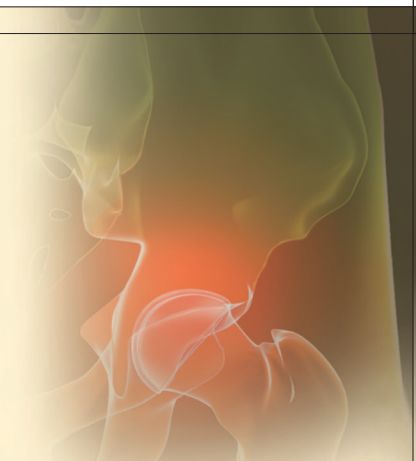
- A. They are appropriate to use in diagnosis, but the 1987 criteria are not.
- B. They can identify patients earlier.
- C. They include a more definitive duration of morning stiffness before maximal improvement to help identify inflammatory arthritis.
- D. Patients who do not meet the full criteria may not be treated for RA.

The correct answer is B

### Question 3

Which joints typically are NOT involved in RA?

- A. Proximal interphalangeal (PIP)
- B. Metacarpophalangeal (MCP)
- C. Metatarsophalangeal (MTP)



D. Distal interphalangeal (DIP)  
The correct answer is D.

**Question 4**

**What is the “gold standard” in clinic for identifying the synovitis of RA?**

- A. Rheumatoid factor assay test
- B. C-reactive protein level
- C. Physical examination
- D. MRI

The correct answer is C

**Question 5**

**In most cases, NSAIDs should not be used as monotherapy to manage RA beyond an initial diagnostic period. True or false?**

- A. True
- B. False

The correct answer is A

**Question 6**

**What is generally considered to be the first-line DMARD in RA?**

- A. Hydroxychloroquine
- B. Methotrexate
- C. Leflunomide
- D. JAK/STAT inhibitors

The correct answer is B

**Question 7**

**Etanercept, Infliximab and Adalimumab used in the treatment of RA have what mechanism of action?**

- A. Block interleukin-1 receptors and decrease IL-1 effect
- B. Bind to the IL-6 receptor and decrease IL-6 effect
- C. Block the action of tumor necrosis factor, a powerful driver of inflammation in the RA joint
- D. Deplete B cells and reduce B cell generated inflammation and antigen presentation

The correct answer is C

**Question 8**

**What does treat to target mean for patients with RA?**

- A. Advancing therapy until a patient reaches a therapeutic goal
- B. Customizing therapy according to a patient’s age and sex
- C. Starting therapy only when a patient’s lab findings fall within specific ranges
- D. Stopping therapy when underlying comorbidities produce adverse effects

The correct answer is A

**Question 9**

**What is the recommended frequency of testing for medication toxicities that can occur with DMARD therapy?**

- A. Every 3 months
- B. Every 6 months
- C. Every 12 months
- D. Every 24 months

The correct answer is A

**Question 10**

**Which emerging developments in RA may soon affect care at the primary care level?**

- A. A diminished rheumatology workforce may lead to delays in patients being seen by rheumatology.
- B. PCPs will initiate DMARD therapy later in the disease course.
- C. PCPs may participate in identification and treatment of patients who are candidates for prevention.
- D. A, B and C
- E. A and C but not B

The correct answer is E

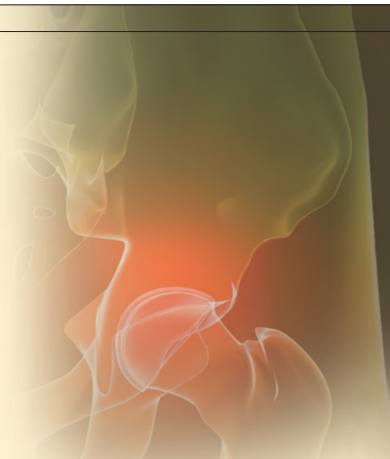
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# Painful Partners: Spondyloarthritis and Fibromyalgia

Compiled and summarized by:

Dr. Ahmed Iqbal Mirza Consultant Rheumatologist  
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## Key Points

- Approximately 1 in 5 patients with axial spondyloarthritis met the diagnostic criteria for fibromyalgia as well.
- Patients with spondyloarthritis who also met the criteria for fibromyalgia had higher disease activity, more comorbidities, markedly poorer quality of life, and significant work disruption compared to those without fibromyalgia.
- Extra-spinal and inflammatory measures did not differ between spondyloarthritis sufferers who met the diagnostic criteria for fibromyalgia and those who did not.

## Background

The prevalence of fibromyalgia is higher among those with inflammatory rheumatic disease in general than among the population at large. Macfarlane and colleagues<sup>1</sup> in the United Kingdom point out that distinguishing axial spondyloarthritis from fibromyalgia is problematic, since the American College of Rheumatology included axial skeletal pain in the diagnosis of the latter.

These researchers note, "FM may distort responses to some of the key patient-reported measures used in axial SpA, such as the Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) and Bath Ankylosing Spondylitis Functional Index (BASFI)."<sup>1</sup>

The FDA recognized a shortfall in the development of effective drug therapy for patients who had either positive changes only on MRI or positivity for HLA-B27 in conjunction with other clinical and laboratory features characteristic of spondyloarthritis.

Because of these factors, the researchers sought to explore the overlap between axial spondyloarthritis and fibromyalgia and to distinguish between the conditions in an effort

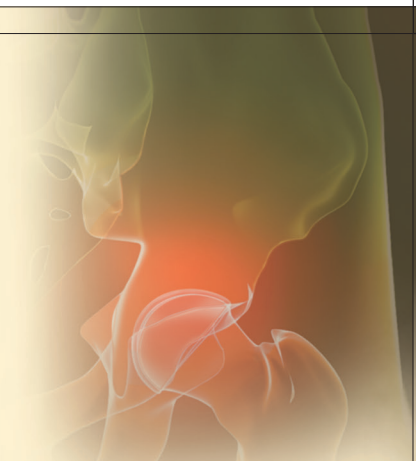
to develop treatment strategies that may work together. They recently presented their findings in *Arthritis & Rheumatology*

## The Study

The authors utilized the British Society of Rheumatology Biologics Register in Ankylosing Spondylitis (BSRBR-AS), a prospective cohort study, to identify patients in the UK with axial spondyloarthritis. Various established measures were employed to determine clinical manifestations, disease severity, and shared criteria for fibromyalgia. Ultimately, 1504 patients were included.

## The Results

- 82.2% of subjects were HLA-B27 positive.
- 1 in 6 subjects were current smokers.
- 69.2% of subjects met the modified New York criteria for axial spondyloarthritis, and an additional 26.5% met the Assessment of Spondyloarthritis International Society criteria.
- 20.7% of subjects met criteria for fibromyalgia (P = .006).
- More female subjects than male met fibromyalgia criteria (26.1% vs 18.2%; P < .001).
- HLA-B27-positive patients were less likely than HLA-B27-negative patients or those not tested to have fibromyalgia (P < .001).
- Patients with spondyloarthritis who met the criteria for fibromyalgia had worse indices of disease activity, function, metrology, and global status; reported significantly worse quality of life and higher rates of depression and anxiety; generally had higher body mass index; and reported significantly greater work time missed.



### Implications for Physicians

- Significant numbers of patients with axial spondyloarthritis probably have fibromyalgia as well
- Because patients with spondyloarthritis who have fibromyalgia have more severe disease, clinicians should screen for co-occurrence and make every effort to treat both diseases in parallel.
- Since these two diseases have a large impact on quality of life and work, future research is needed to explore the best treatment options that address the interaction of the two.

### Disclosures:

The Arthritis Research UK provided funding for this project.

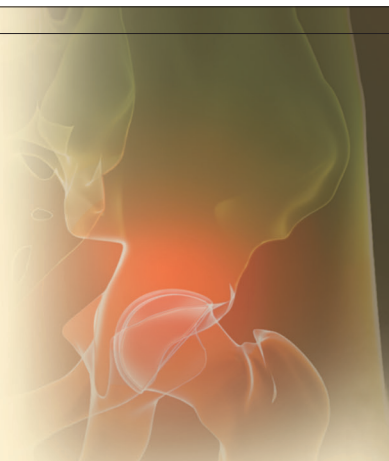
#### References:

1. Macfarlane GJ, Barnish MS, Pathan E, et al. [Co-occurrence and characteristics of patients with axial spondyloarthritis who meet criteria for fibromyalgia: results from a UK national register.](#) Arthritis Rheumatol. 2017;69:2144-2150. doi: 10.1002/art.40185.

# A 19-Year-Old Man with Back Pain and Fever

Compiled and summarized by:

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## History:

A 19-year-old man presents to his primary care provider with a 2-month history of lower back pain and stiffness. The pain is intermittent, achy, and usually worse in the morning than it is later in the day or evening. He has also noticed a progressive inability to perform activities that require flexibility in the back, such as bending down to pull on his pants or tying his shoelaces. The pain sometimes awakens him at night. It is improved with exercise.

He also reports a several-month history of low-grade fever, malaise and anorexia, as well as an unintended weight loss of 10 lbs. He has not noted any masses on his testicles with self-examination.

The patient has no history of rash. He does not have any known chronic medical conditions. He takes one multivitamin per day. He has never smoked, but he does drink an occasional glass of wine with dinner. No significant family history of disease is reported.

Upon physical examination, the patient has a blood pressure of 125/67 mm Hg and a heart rate of 60 beats/min. His respiratory rate is 8 breaths/min and his temperature is normal at 98°F. The cardiovascular and respiratory findings of the examination are normal; specifically, no murmurs or rubs are detected. The patient has no photophobia, eye redness, or decreased visual acuity.

Upon examination of the back, flexion of the lumbar spine is clearly decreased when the patient attempts to bend down to touch his toes. He also has pain and limited range of motion with rotation and lateral flexion at the lumbar spine. His chest expansion is mildly diminished. The remainder of the physical examination is within normal limits.

As part of the initial workup of the findings on physical examination, routine laboratory

investigations, including a complete blood cell (CBC) count and a basic electrolyte panel, and plain radiographs of the back are performed. The chemistry panel is unremarkable, and the CBC reveals a white blood cell count of  $4.6 \times 10^3$  cells/ $\mu\text{L}$ , a hemoglobin level of 13.7 g/dL, a hematocrit of 43%, and a platelet count of  $120 \times 10^3$  cells/ $\mu\text{L}$ . Electrolyte values are within normal limits.

A rheumatoid factor test is negative, and the erythrocyte sedimentation rate is 64 mm/hr (normal range, < 10 mm/h for men). The patient has a positive finding for human leukocyte antigen (HLA)-B27.

Anteroposterior and lateral radiographs of the lumbar spine are obtained

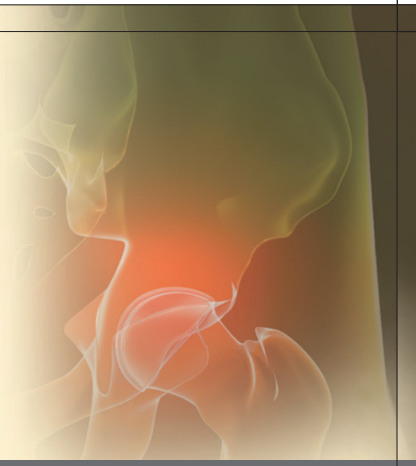
**On the basis of the history, physical examination, and workup, what is the diagnosis?**

1. Ankylosing spondylitis
2. Spinal stenosis
3. Psoriatic arthritis
4. Diffuse idiopathic skeletal hyperostosis

## Discussion

The anteroposterior and lateral radiographs of the spine demonstrated the classic "bamboo-spine" finding seen in cases of ankylosing spondylitis. The images showed sclerosis and ankylosis of the vertebral bodies, without loss of disc space. Bone formation extended across the anterior and lateral margins of the intervertebral disks of the lower thoracic and lumbar spine (syndesmophytosis). The sacroiliac joints showed extensive periarticular sclerosis and focal ankylosis.

Ankylosing spondylitis is a chronic inflammatory disorder of multiple articular and para-articular structures that principally involves the axial skeleton. It usually affects the sacroiliac joints and the spinal facet joints of the vertebrae. It sometimes involves the



appendicular skeleton as well, such as the joints of the greater trochanter, patella, and calcaneum. Other extraspinal manifestations include iritis/uveitis and pulmonary involvement. The basic pathologic lesion of ankylosing spondylitis occurs at the entheses, which are sites at which ligaments, tendons, and joint capsules attach to bone. In the outer layers of the annulus fibrosis of the intervertebral discs, the condition manifests as a formation of new bone. The name of the disease is derived from Greek; "ankylos" means stiffening of a joint, and "spondylos" means vertebra. The disease is classified as a chronic and progressive form of seronegative arthritis.

Ankylosing spondylitis affects men 4-10 times more frequently than women, and the symptoms generally appear in those aged 15-35 years. More than 90% of white persons with ankylosing spondylitis have the HLA-B27 gene, but 6%-8% of those with this gene do not develop the disease. Symptoms of ankylosing spondylitis include back pain and stiffness, peripheral joint and chest pain, sciatica, anorexia, weight loss, and low-grade fever. The back pain associated with this condition is typically transient at first, but it eventually becomes persistent. It is usually worse in the mornings and resolves with exercise. A typical patient may also complain of waking up with back pain at night. The pain is usually centered over the sacrum, but it may radiate to the groin, buttocks, and down the legs.

Over time, the back pain usually progresses up the spine and affects the rib cage, resulting in a restriction of chest expansion and diaphragmatic breathing (observed as ballooning of the abdomen during inspiration) as the costovertebral joints become affected. The cervical spine is ankylosed late in the course of the disease, leading to restriction in neck movement and head rotation. Without

treatment, the spine eventually becomes completely rigid, with loss of the normal curvature and movement.

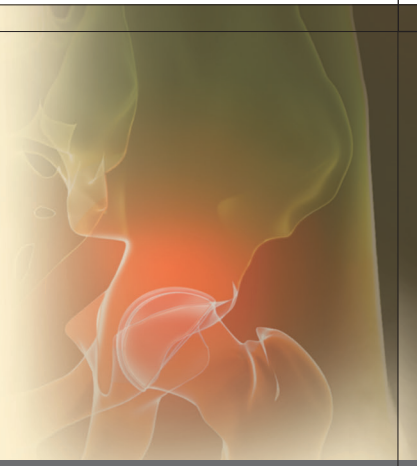
Upon physical examination, the loss of lateral flexion of the lumbar spine is the earliest objective sign of spinal involvement. Sacroiliitis may be detected by eliciting a tenderness response during percussion over the sacroiliac joints. Objective tests to quantify spinal restriction include touching the toes, the Schober test, and measurement of chest expansion. Additional physical findings include restriction of motion in the peripheral joints and tenderness over the entheses.

The physical examination should also include evaluation for signs of potentially serious cardiovascular and pulmonary complications, such as aortic incompetence secondary to aortitis, conduction defects of the heart, cardiomyopathy, pericarditis, apical fibrosis of the lungs, bronchiectasis, cavitation of the chest, and development of a restrictive ventilatory pattern.

Other associated conditions include the development of inflammatory bowel disease; uveitis (in up-to 20% of patients); radiculitis secondary to inflamed nerves; and, rarely, amyloidosis.

Specific criteria for the diagnosis of ankylosing spondylitis include the Rome criteria (developed in 1963) and the New York criteria (developed in 1968). Although these criteria have been generally accepted as useful, limitations are recognized and overlaps exist among the clinical and radiologic features of various seronegative spondyloarthropathies. Sacroiliitis is the hallmark of ankylosing spondylitis and is a requisite for the diagnosis under both sets of criteria.





Other conditions, such as Psoriasis, Reiter disease, Enteropathic arthropathy, Hyperparathyroidism, and Osteitis condensans ilii, may also result in bilateral symmetric sacroiliac joint disease and should be considered in the differential diagnosis. Ankylosing spondylitis may also present with Asymmetric sacroiliitis, which may be more characteristic of other conditions, such as psoriasis, Reiter disease, rheumatoid arthritis, and gouty arthritis. Radiographically, diffuse idiopathic skeletal hyperostosis (DISH) has a similar appearance to ankylosing spondylitis; however, DISH typically occurs at a later age and does not involve the sacroiliac joint. The radiographic changes usually first appear in the sacroiliac joints, followed by the thoracolumbar and lumbosacral spine; this is in line with the natural progression of the disease. The disease then proceeds cephalad up the spine; however, the cervical spine may also be affected without involvement of the thoracic or lumbar spine.

Radiographically evident peripheral-joint abnormalities are seen in more than 50% of patients. Abnormalities can also be seen in the symphysis pubis and in the manubriosternal, sternoclavicular, and temporomandibular joints. Spinal findings include osteitis, syndesmophytosis, discovertebral erosions and destruction (Romanus lesions), and disc calcification. Radiographically, joint involvement appears as joint-space narrowing, periostitis, osseous erosion, and minimal periarticular osteoporosis (less than that seen with rheumatoid arthritis). Sacroiliac joint involvement is usually bilateral and symmetric. Common laboratory findings are an elevated erythrocyte sedimentation rate (during the acute phase), a positive HLA-B27 histocompatibility antigen, mild leukocytosis, normochromic normocytic anemia (anemia of chronic disease), and negative results for

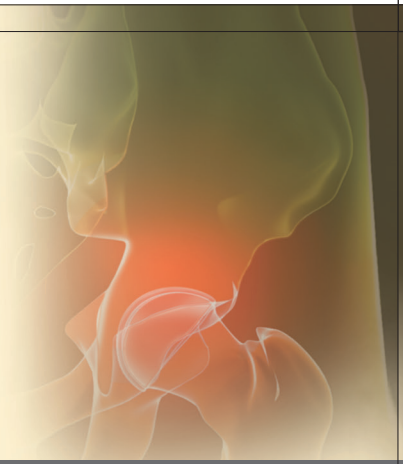
rheumatoid factor.

The general principles of managing chronic arthritis also apply to ankylosing spondylitis. Among the various nonsteroidal anti-inflammatory drugs (NSAIDs) available to treat the disease, indomethacin may be the most effective. The lowest dose that provides pain relief should be used in order to avoid potentially serious complications, such as gastritis, peptic ulcer disease, and renal insufficiency. Sulfasalazine can be useful if peripheral arthritis is substantial, but it may be less effective when spinal and sacroiliac pain are the most prominent symptoms. In most patients, the symptoms persist for life, although in some cases remission does occur.<sup>4</sup>

Physical therapy and exercise can help prevent axial immobility. Specifically, spinal extension and deep-breathing exercises maintain spinal mobility, encourage erect posture, and promote chest expansion. Maintaining an erect posture and sleeping on a firm mattress with a thin pillow can help reduce thoracic kyphosis. Severe hip or spinal involvement may require surgical repair. Anti-tumor necrosis factor (TNF) agents, such as Infliximab and Etanercept, are relatively new but often very effective therapeutic agents that may be considered for patients with pain that is refractory to other interventions.<sup>4,5</sup>

### Case

The patient in this case was started by his primary care provider on a low dose of indomethacin to reduce pain and decrease inflammation. He was referred by the primary care provider to a rheumatologist for further evaluation and management and ongoing medical treatment. He was also referred to a physical therapist to begin a proper exercise and stretching program. Information regarding



support groups to provide further education on the disease process and available treatment options were also given to the patient.

**Which of the following statements is true?**

- A. Ankylosing spondylitis is a chronic inflammatory disorder that principally involves the appendicular skeleton
- B. The disease affects women more frequently than men
- C. Symptoms generally appear in individuals aged 5-10 years
- D. More than 90% of white patients with the disease are positive for the HLA-B27 gene

**The correct answer is D**

**Which of the following statements about therapeutic modalities and treatments is/are accurate?**

- A. Indomethacin may be the most effective NSAID for managing arthritic pain
- B. Vigorous physical therapy, such as spinal extension and chest expansion, as well as regular exercise may help to prevent disability resulting from axial immobility
- C. Thoracic kyphosis may be reduced by maintaining an erect posture and sleeping on a firm mattress
- D. All of the above

**The correct answer is D**

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## Lucky Draw Winners from Photo Quiz of 13<sup>th</sup> Issue

### Question

What is the primary cause of the manifestation shown here?

### Answer

- Raynaud phenomenon



### Winners of Lucky Draw

The editorial board of Rheuma Facts Magazine is pleased to announce the names of winners for the photo-quiz of the 13<sup>th</sup> issue. The lucky draw was conducted at Karachi and following are the names of the lucky draw winners randomly drawn by Dr. Ahmed Iqbal Mirza.

We congratulate the winners and once again thank all the contestants for their participation in the quiz.

1. **Dr. Muhammad Javaid**  
Civil Hospital, Karachi
2. **Dr. Shahid Rasheed**  
Ibn-e- Sina Hospital, Karachi
3. **Dr. Irfanullah Ansari**  
Korangi Landhi Medical Center , Karachi
4. **Dr. Iqbal Malik**  
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District Head Quarter Hospital, Gujranwala
11. **Dr. Haroon Ur Rehman Gillani**  
District Head Quarter Hospital, Sahiwal
12. **Prof . Javeed Awan**  
District Head Quarter Hospital, Faisalabad
13. **Prof. Muhammad Ayaz Khan**  
Khyber Teaching Hospital, Peshawar
14. **Dr. Noor Rehmani**  
Hayatabad Medical Complex, Peshawar
15. **Dr. Sajid Akhtar**  
Saidu Teaching Hospital, Swat
16. **Dr. Muhammad Adeel**  
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18. **Dr. Ehsan Ul Haq**  
District Head Quarter Hospital, Mirpur Azad  
Kashmir
19. **Dr. Sajid Manzoor**  
District Head Quarter Hospital, Kotli, Azad Kashmir
20. **Dr. Naheed Akhtar**  
Combined Military Hospital , Muzaffarabad, Azad  
Kashmir

# Photo Quiz



## Question

The Differential diagnosis of sub cutaneous nodule includes the following:

- 1. Rheumatoid nodule
- 2. Gouty Tophi
- 3. Fibroma
- 4. Tendon xanthoma