

Self-Assessment Test

New Recommendations for Disease-Modifying Antirheumatic Drugs and Emerging Options for the Treatment of Rheumatoid Arthritis

This program is located at <http://ashpmedia.org/symposia/DMARDs>



This self-assessment test has been provided as a study aid only. At the conclusion of the internet-based activity, click on “Take CE Test” to proceed to the ASHP Learning Center and take the online activity post-test. You may print your CE statement immediately after successful completion of the post-test.

There are a total of 21 questions associated with this self-assessment test.

1. Which of the following is a hallmark symptom of rheumatoid arthritis?
 - a. Fatigue on awakening that lasts for at least 3 hours.
 - b. Asymmetrical joint stiffness that gets progressively worse during the day.
 - c. Symmetrical joint stiffness on awakening that lasts for at least 1 hour.
 - d. Symmetrical joint swelling always accompanied with pain.
2. Which of the following is the primary basis for the early diagnosis of rheumatoid arthritis in most patients?
 - a. History and physical examination.
 - b. Laboratory test results.
 - c. X-rays.
 - d. History, physical examination, laboratory test results, and X-rays all are needed.
3. Which of the following laboratory test findings is a reliable early indicator of rheumatoid arthritis that predicts disease activity?
 - a. Positive for anti-cyclic citrullinated protein (anti-CCP) antibody.
 - b. Decreased C-reactive protein.
 - c. Decreased erythrocyte sedimentation rate.
 - d. Positive for rheumatoid factor.
4. Which of the following endpoints is assessed by the Health Assessment Questionnaire (HAQ)?
 - a. Ability to perform the activities of daily living.
 - b. Joint damage.
 - c. Joint swelling.
 - d. Radiographic damage.



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5. If a patient has a DAS28 (disease activity score in 28 joints) of 5.3, the patient's rheumatoid arthritis would be interpreted as
 - a. Inactive.
 - b. Moderately active.
 - c. Very active.
 - d. Cannot be interpreted.

6. Which of the following statements best describes the relationship between pro-inflammatory and anti-inflammatory cytokines in the joints of patients with rheumatoid arthritis?
 - a. Anti-inflammatory cytokines are not present.
 - b. There is a balance of pro-inflammatory and anti-inflammatory cytokines.
 - c. There is an imbalance with pro-inflammatory cytokines outweighing anti-inflammatory cytokines.
 - d. There is an imbalance with anti-inflammatory cytokines outweighing pro-inflammatory cytokines.

7. In the combination approach to therapy for rheumatoid arthritis,
 - a. Methotrexate is rarely used.
 - b. Chimeric monoclonal antibodies are often administered with methotrexate.
 - c. Two or more biologics can be combined.
 - d. Agents are always added sequentially.

8. What was a significant finding of the BeSt trial?
 - a. Higher incidence of adverse effects with prednisone use.
 - b. Higher percentage of patients achieved low disease activity with combination therapy than monotherapy.
 - c. More rapid improvement in functional ability with combination therapy than with monotherapy.
 - d. Sustained benefit from combination therapy required continued use of infliximab.



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9. A recent study by Buchbinder et al. reported an increase in malignancies in patients with rheumatoid arthritis receiving methotrexate compared with the general population. What type of malignancy showed the greatest increase in incidence with this drug?
 - a. Colon cancer.
 - b. Non-Hodgkin's lymphoma.
 - c. Lung cancer.
 - d. Melanoma.

10. Infusion reactions are a major concern with which of the following drugs?
 - a. Adalimumab.
 - b. Etanercept.
 - c. Methotrexate.
 - d. Rituximab.

11. According to the 2008 American College of Rheumatology (ACR) recommendations, what monotherapy would be appropriate as initial treatment for rheumatoid arthritis in a patient with moderate disease activity who has experienced symptoms for about 18 months and whose serology shows a positive test for rheumatoid factor?
 - a. Hydroxychloroquine.
 - b. Infliximab.
 - c. Methotrexate.
 - d. Sulfasalazine.

12. WP has experienced symptoms of rheumatoid arthritis for 2 months and is having trouble carrying out her activities of daily living. She is considered to have high disease activity. Serology shows a positive test for anti-cyclic citrullinated peptide antibodies and x-rays show bony erosions. WP has good insurance coverage. According to the 2008 American College of Rheumatology (ACR) recommendations, what combination of drugs would be appropriate as initial therapy for her rheumatoid arthritis?
 - a. Adalimumab and abatacept.
 - b. Infliximab and rituximab.
 - c. Methotrexate and adalimumab.
 - d. Methotrexate and minocycline.



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13. HF is a patient with heart failure and a left ventricular ejection fraction of 30%. His rheumatoid arthritis has not been adequately controlled with his current therapy. Which of the following would be contraindicated for this patient?
- Abatacept.
 - Etanercept.
 - Methotrexate.
 - Sulfasalazine.
14. According to the ACR 2008 recommendations, which of the following vaccinations is recommended before and during therapy for all patients with rheumatoid arthritis regardless of their treatment?
- Influenza vaccine.
 - Pneumococcal vaccine.
 - Hepatitis B vaccine.
 - Varicella virus vaccine.
15. Based on the pathophysiology pathways of rheumatoid arthritis, all of the following are potential therapeutic targets EXCEPT
- Chemokines.
 - T and B cells.
 - Adhesion molecules.
 - Angiotensin converting enzyme.
16. Which of the following is a B-cell target for therapy under investigation for the treatment of rheumatoid arthritis?
- Clusters of differentiation 2 (CD2).
 - CD80.
 - B lymphocyte stimulator (BLyS).
 - Spleen tyrosine kinase (Syk).
17. Which of the following interleukins (ILs) appear to be the most promising therapeutic targets for antirheumatic drug therapy based on efficacy data from clinical trials?
- IL-1 and IL-6.
 - IL-1 and IL-15.
 - IL-6 and IL-17.
 - IL-2 and IL-8.



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18. Which of the following safety concerns appears likely to affect the largest number of patients receiving tocilizumab based on the number needed to harm determined in risk-benefit analyses?
- Gastrointestinal perforation.
 - Neutropenia.
 - Serious infection.
 - Abnormal liver function test results.
19. Which of the following is a tumor necrosis factor- α inhibitor under investigation for the treatment of rheumatoid arthritis that has shown meaningful improvement in fatigue scores and HAQ scores compared with placebo?
- Riloncept.
 - Fostamatinib.
 - Golimumab.
 - Denosumab.
20. Which of the following is the most likely adverse event from the kinase inhibitor, fostamatinib, based on a 12-week randomized, placebo-controlled trial of the drug?
- Dizziness.
 - Diarrhea.
 - Nausea.
 - Neutropenia.
21. Which of the following best describes the effect of adhesion molecule inhibitors under investigation for the treatment of rheumatoid arthritis?
- Prevents migration of inflammatory cells into the synovium.
 - Down regulates nuclear factor κ B, resulting in inhibition of immune or inflammatory responses.
 - Inhibits chemoattractant properties of inflammatory cells.
 - Inhibits immunoreceptor signaling, leading to an interruption in tumor necrosis factor- α and matrix metalloproteinase production.



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