

CME POSTTEST

Update On CCR5 Inhibitors: Scientific Rationale, Clinical Evidence, and Anticipated Uses

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Accreditation: This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Medical Society of the State of New York through the joint sponsorship of the New York County Medical Society and the Physicians' Research Network, Inc. The New York County Medical Society is accredited by the Medical Society of the State of New York to provide continuing medical education for physicians.

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Financial Disclosure

Author: Dr. Athe Tsibris discloses that he has had no personal financial relationship in the last 12 months with any commercial entity funding this course or any manufacturer of products or services to be discussed in this course.

Course Director: Dr James Braun discloses that he has had no personal financial relationship in the last 12 months with any commercial interest funding this course or any manufacturer of the products or services discussed in this course.

This is a CME pilot program sponsored by the Physicians' Research Network and the New York County Medical Society.

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CME Instructions

To receive documentation of your participation in this CME activity for a total of 2 hours of CME credit, please complete the following steps:

1. Read the article carefully, and
2. Print this CME Posttest document and complete the following sections: (Please print clearly.)
 - I. CME Q&A,
 - II. Posttest Evaluation Survey,
 - III. Credits claimed (maximum of 2) with your signature,
 - IV. Full contact information.
3. Mail pages 2 and 3 of this document with the completed CME Q&A, Posttest Evaluation Survey, credits claimed with signature, and full contact information to:
Physicians' Research Network, Inc.
39 West 19th Street, Sixth Floor
New York, NY 10011
4. This posttest and the evaluation survey must be received by December 31, 2008 for you to be eligible to receive CME credit from the New York County Medical Society (NYCMS).

Section I: CME Q&A Please circle only ONE answer for each of ten questions below.

1. The primary determinant of HIV coreceptor use (ie, using either CCR5 or CXCR4) is:
 - a. gp41
 - b. The V1 and V2 loops of gp120
 - c. The V3 loop of gp120
 - d. The bridging sheet (C4 region) of gp120
2. During natural HIV infection, viruses using which coreceptor are almost exclusively transmitted?
 - a. CCR5
 - b. CXCR4
 - c. Both CCR5 and CXCR4
3. Current published data best supports the use of CCR5 antagonists in which patient populations:
 - a. Treatment-naïve patients
 - b. Antiretroviral-experienced patients as a second line regimen
 - c. Antiretroviral-experienced patients as a salvage or deep salvage regimen
 - d. b and c
 - e. All of the above
4. Patients failing CCR5 antagonist therapy do so in the majority of cases because of:
 - a. A change in viral coreceptor usage (CCR5 to CXCR4)
 - b. The development of viral mutations that confer resistance (classic genotypic resistance)
 - c. Non-compliance
5. When genotypic resistance to CCR5 antagonists does emerge:
 - a. Mutations in the V3 loop of HIV-1 gp120 are found
 - b. V3 loop mutations can be seen at different amino acid positions in different viruses
 - c. Mutants acquire the ability to use the inhibitor-bound form of CCR5 for viral entry to the host cell
 - d. a and b
 - e. All of the above
6. Determining viral coreceptor usage using the Trofile™ assay (Monogram):
 - a. Usually requires a patient viral load >1,000 copies/mL
 - b. Will misclassify patients as having R5 virus only approximately 10% of the time
 - c. Has decreased sensitivity for detecting CXCR4-using viruses if they comprise <10% of the viral quasispecies
 - d. Represents a significant improvement over previously available methods to determine coreceptor usage
 - e. All of the above
7. Patients with inherited decreased levels of natural CCR5 (CCR5Δ32 heterozygotes):
 - a. Experience slower rates of HIV disease progression
 - b. Have increased morbidity and mortality from West Nile Virus infection
 - c. Are more likely from Northern Europe than Southern Europe or Africa
 - d. a and c
 - e. All of the above
8. A decrease in maraviroc dose to 150 mg PO BID is required when the drug is combined with either efavirenz or ritonavir-boosted protease inhibitors:
 - a. True
 - b. False
9. When ordering an entry susceptibility assay, decreased susceptibility to CCR5 antagonists is manifest by:
 - a. A classic rightward displacement of the IC₅₀ curve, with a resultant increase in IC₅₀
 - b. A flattened curve showing a decreased plateau but an essentially unchanged IC₅₀
10. When patients on CCR5 antagonists have a change in coreceptor usage from CCR5 virus only to dual/mixed (D/M) or CXCR4 virus only, this means:
 - a. A CCR5-using virus has mutated and become a dominant CXCR4-using virus
 - b. A minority CXCR4-using viral population, below the limit of detection of the Trofile assay, has expanded, crossed the limit of detection and can now be identified by Trofile
 - c. CXCR4-using virus has killed off CCR5-using virus

SECTION II: Posttest evaluation survey for The Gastrointestinal Tract in HIV-1 Infection: Questions, Answers, and More Questions!

Please answer the following questions by circling the appropriate rating:

5 = Outstanding 4 = Good 3 = Satisfactory 2 = Fair 1 = Poor

Extent to Which Program Activities Met the Identified Objectives

Upon completion of this activity, participants should be able to:

1. Understand the mechanism of action of CCR5 antagonists in blocking HIV-1 entry.	5	4	3	2	1
2. Recognize that CCR5 antagonist resistance differs from resistance to other antiretroviral drugs, in that different mutations confer resistance in different viruses.	5	4	3	2	1
3. Identify the appropriate patient populations to receive CCR5 antagonists.	5	4	3	2	1
4. Appreciate the limitations of phenotypic susceptibility testing for CCR5 antagonist resistance.	5	4	3	2	1

Overall Effectiveness of the Activity

Objectives were related to overall purpose/goal(s) of activity	5	4	3	2	1
Related to my practice needs	5	4	3	2	1
Will influence how I practice	5	4	3	2	1
Will help me improve patient care	5	4	3	2	1
Stimulated my intellectual curiosity	5	4	3	2	1
Overall, the activity met my expectations	5	4	3	2	1

Will the information presented cause you to make any changes in your practice? No. Yes.

If yes, please describe any change(s) you plan to make in your practice as a result of this activity.

How committed are you to making these changes?

5 (Very committed) 4 3 2 1 (Not at all committed)

Additional comments about this activity?

Do you feel future activities on this subject matter are necessary and/or important to your practice? No. Yes.

Please list any other topics that would be of interest to you for future educational activities:

Did you find any commercial bias in this CME course?

No. Yes. (If yes, please be specific):

Section III: I certify my actual time spent to complete this educational activity to be _____ hour(s) [not to exceed 2.0 hours].

Signature

Section IV: Required Contact Information

E-mail

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If you wish to receive credit for this activity, please complete Sections I–IV on pages 2 and 3 and mail to:

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THANK YOU FOR YOUR PARTICIPATION.