

The Medical Letter[®]

on Drugs and Therapeutics

Volume 65

Published online March 6, 2023

Online
Article

IN THIS ISSUE

In Brief: *Adstiladrin* – A Gene Therapy for Bladder Cancer

Important Copyright Message

FORWARDING OR COPYING IS A VIOLATION OF U.S. AND INTERNATIONAL COPYRIGHT LAWS

The Medical Letter, Inc. publications are protected by U.S. and international copyright laws. Forwarding, copying, or any distribution of this material without permission to a nonsubscriber is prohibited.

Sharing a password with a nonsubscriber or otherwise making the contents of this site available to third parties is prohibited.

By accessing and reading the attached content I agree to comply with U.S. and international copyright laws and these terms and conditions of The Medical Letter, Inc.

For further information click: [Subscriptions](#), [Site Licenses](#), [Reprints](#)
or call customer service at: 800-211-2769

The Medical Letter®

on Drugs and Therapeutics

Volume 65

Published online March 6, 2023

Online
Article

IN THIS ISSUE

In Brief: *Adstiladrin* – A Gene Therapy for Bladder Cancer

IN BRIEF

Adstiladrin – A Gene Therapy for Bladder Cancer

Nadofaragene firadenovec-vncg (*Adstiladrin* – Ferring), an adenoviral vector-based gene therapy, has been approved by the FDA for treatment of adults with high-risk *Bacillus Calmette-Guérin* (BCG)-unresponsive non-muscle invasive bladder cancer (NMIBC) with carcinoma *in situ* with or without papillary tumors. It is the first adenoviral vector-based gene therapy to be approved in the US for this indication. The immune checkpoint inhibitor pembrolizumab (*Keytruda*) was approved for the same indication in 2021.

Pronunciation Key

Nadofaragene firadenovec-vncg: nad" oh far' a jeen fye" ra den' oh vek

Adstiladrin: add still' a drin

The four-letter suffix -vncg has no pronunciation or meaning; such suffixes are added to biologic drugs to distinguish reference products from their biosimilars.

MECHANISM OF ACTION – Nadofaragene firadenovec is a nonreplicating adenoviral vector-based gene therapy that delivers a copy of a gene encoding interferon- α 2b to the bladder epithelium, where it has anti-tumor effects. Syn3, a polyamide surfactant excipient, enhances viral transduction of the urothelium.

CLINICAL STUDIES – FDA approval of nadofaragene firadenovec was based on the results of a single-arm trial in 151 patients with high-risk NMIBC, 98 of whom had BCG-unresponsive carcinoma *in situ*. Patients received nadofaragene firadenovec by intravesical instillation once every three months for up to 12 months unless high-grade recurrence or unacceptable toxicity occurred. A complete response

was achieved in about 53% of patients within 3 months after the first dose of the drug and the response was maintained in about 46% of these patients at 12 months. The median duration of response was 9.7 months.¹

ADVERSE EFFECTS – The most common adverse effects of nadofaragene firadenovec in the clinical trial were hyperglycemia, instillation-site discharge, increased triglyceride levels, fatigue, bladder spasm, micturition urgency, increased creatinine levels, hematuria, decreased phosphate levels, chills, dysuria, and pyrexia. Because nadofaragene firadenovec contains low levels of replication-competent adenovirus, it may increase the risk of disseminated adenovirus infection in immunocompromised patients.

PREGNANCY AND LACTATION – Nadofaragene firadenovec has not been studied in pregnant women. Women of reproductive potential and their male partners should use effective contraception during treatment and for 6 months (females) or 3 months (males) after the last dose. No data on the presence of the drug in human breast milk or on its effect on the breastfed infant or milk production are available.

DOSAGE, ADMINISTRATION, AND COST – Nadofaragene firadenovec is supplied in cartons containing 4 single-dose vials for intravesical instillation; each vial contains 3×10^{11} viral particles (vp)/mL. The recommended dose is 75 mL instilled into the bladder and left for 1 hour once every three months. Premedication with an anticholinergic drug is recommended before each dose. The cost of *Adstiladrin* is not yet available. ■

1. SA Boorjian et al. Intravesical nadofaragene firadenovec gene therapy for BCG-unresponsive non-muscle-invasive bladder cancer: a single-arm, open-label, repeat-dose clinical trial. *Lancet Oncol* 2021; 22:107.

PRESIDENT: Mark Abramowicz, M.D.; **VICE PRESIDENT, EDITOR IN CHIEF:** Jean-Marie Pflomm, Pharm.D.; **ASSOCIATE EDITORS:** Susan M. Daron, Pharm.D., Amy Faucard, MLS, Michael P. Viscusi, Pharm.D. **CONSULTING EDITORS:** Joanna Esterow, PA-C, Mordechai Sacks, DMSc, PA-C, Brinda M. Shah, Pharm.D., F. Peter Swanson, M.D.

CONTRIBUTING EDITORS: Carl W. Bazil, M.D., Ph.D., Columbia University College of Physicians and Surgeons; Ericka L. Crouse, Pharm.D., B.C.P.P., C.G.P., F.A.S.H.P., F.A.S.C.P., Virginia Commonwealth University; Vanessa K. Dalton, M.D., M.P.H., University of Michigan Medical School; Eric J. Epstein, M.D., Albert Einstein College of Medicine; David N. Juurlink, BPhM, M.D., Ph.D., Sunnybrook Health Sciences Centre; Richard B. Kim, M.D., University of Western Ontario; Sandip K. Mukherjee, M.D., F.A.C.C., Yale School of Medicine; Dan M. Roden, M.D., Vanderbilt University School of Medicine; Esperance A.K. Schaefer, M.D., M.P.H., Harvard Medical School; Neal H. Steigbigel, M.D., New York University School of Medicine; Arthur M. F. Yee, M.D., Ph.D., F.A.C.R., Weill Medical College of Cornell University

MANAGING EDITOR AND DIRECTOR OF CONTENT OPERATIONS: Susie Wong; **EDITORIAL ASSISTANT:** Karrie Ferrara

FULFILLMENT AND SYSTEMS MANAGER: Cristine Romatowski; **EXECUTIVE DIRECTOR OF SALES:** Elaine Reaney-Tomaselli

EXECUTIVE DIRECTOR OF MARKETING AND COMMUNICATIONS: Joanne F. Valentino; **INTERIM PUBLISHER:** Jean-Marie Pflomm, Pharm.D.

Founded in 1959 by Arthur Kallet and Harold Aaron, M.D.

Copyright and Disclaimer: The Medical Letter, Inc. is an independent nonprofit organization that provides healthcare professionals with unbiased drug prescribing recommendations. The editorial process used for its publications relies on a review of published and unpublished literature, with an emphasis on controlled clinical trials, and on the opinions of its consultants. The Medical Letter, Inc. does not sell advertising or receive any commercial support. No part of the material may be reproduced or transmitted by any process in whole or in part without prior permission in writing. The Medical Letter, Inc. does not warrant that all the material in this publication is accurate and complete in every respect. The Medical Letter, Inc. and its editors shall not be held responsible for any damage resulting from any error, inaccuracy, or omission.

Subscription Services

Address:

The Medical Letter, Inc.
145 Huguenot St. Ste. 312
New Rochelle, NY 10801-7537
www.medicalletter.org

Customer Service:

Call: 800-211-2769 or 914-235-0500
Fax: 914-632-1733
E-mail: custserv@medicalletter.org

Permissions:

To reproduce any portion of this issue,
please e-mail your request to:
permissions@medicalletter.org

Subscriptions (US):

1 year - \$159; 2 years - \$298;
3 years - \$398. \$65 per year
for students, interns, residents,
and fellows in the US and Canada.
Reprints - \$45 per issue or article

Site License Inquiries:

E-mail: SubQuote@medicalletter.org
Call: 800-211-2769
Special rates available for bulk
subscriptions.

Get Connected:



Copyright 2023. ISSN 1523-2859

