

# ONCOLOGY NURSE ADVISOR FORUM

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## QUESTIONS & ANSWERS

### IS THE SAME FORMULATION OF TRETINOIN USED TO TREAT BOTH APL AND ACNE?

We recently had a patient with acute promyelocytic leukemia (APL) whose treatment plan included tretinoin. Our research on the drug showed it to be the same medication that is used for the treatment of acne. Is the formulation of tretinoin used to treat APL the same as that used to treat acne? —Angie Caton, RN

*The formulations used to treat APL and acne are not the same. The oral formulation of tretinoin (Vesanoid) is used to treat acute promyelocytic leukemia.<sup>1,2</sup> The topical formulation of tretinoin, which is sold under several brand names, is used to treat acne vulgaris and keratosis pilaris.*

*Tretinoin binds to one or more nuclear receptors, and decreases proliferation and induces differentiation of APL cells. It enhances maturation of promyelocytes, repopulating bone marrow and blood with normal hematopoietic cells to help achieve complete remission. As Vesanoid, the drug is available in 10 mg capsules for oral administration. Doses for remission induction are 45mg/m<sup>2</sup>/day in two divided doses.<sup>1,2</sup>*

*Isotretinoin (Accutane), also commonly used in acne therapy, is limited to investigational use in pediatric oncology patients, specifically in patients with high risk neuroblastoma.<sup>3,4</sup> Tretinoin (all-trans retinoic acid) and isotretinoin (13-cis retinoic acid) are classified as retinoids. —Sandra Cuellar, PharmD, BCOP*

### REFERENCES

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3. Bauters TG, Laureys G, Van de Velde V, et al. Practical implications for the administration of 13-cis retinoic acid in pediatric oncology. *Int J Clin Pharm*. 2011;33(4):597-598.
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### IS AMIFOSTINE STILL USED AS A RADIOPROTECTANT?

Is amifostine (Ethyol, generic) still regularly used as a radioprotectant or has its use been discontinued in many centers? If so, was the discontinuation related to side effects? —Karen Seal, R.N., OCN

*Amifostine is used as a radioprotectant in patients undergoing treatment for squamous cell carcinoma of the head and neck. It is used to prevent acute or late xerostomia*

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(dry mouth) when the radiation port includes a substantial portion of the parotid glands.

In a study presented at the 2001 American Society of Clinical Oncology (ASCO) annual meeting, Boccia and colleagues concluded that low-dose amifostine (500 mg IV push over 3 minutes) is safe and well tolerated as a radioprotectant in patients with squamous cell carcinoma of the head and neck.<sup>1</sup> Nausea, vomiting, and hypotension are the major side effects reported; however, prehydration and antiemetics can reduce the risk for these effects. Hypotension occurs in about 15% of patients.<sup>1</sup>

Prehydration can be administered at home orally or in clinic via IV. Any hypertensive medications should be held prior to amifostine administration. Nausea and vomiting occurs in 53% of patients; therefore, oral 5HT<sub>3</sub> antagonists or a phenothiazine is given 90 to 120 minutes before administering amifostine. If an IV antiemetic is used, it can be given 30 minutes before. Dose, based on body surface area (BSA), is 200 mg/m<sup>2</sup>. BP should be checked prior to administering amifostine, and repeated at 5, 10, and 15 minutes postinjection. If hypotension occurs, 250-500 mL IV hydration should be infused until normotensive.

Amifostine use has declined with advances in radiation therapies that are targeted to the cancer region. This reason, as well as adverse effects or poor tolerability, could be contributors to the decline in use of amifostine for this indication. —Sandra Cuellar, PharmD, BCOP

### REFERENCE

1. Boccia RV, Alster M, Housekamp E. Amifostine (Ethyol) given by rapid IV push is safe and tolerable. *Proc Am Soc Clin Oncol*. 2001;20. Abstract 2543.

### WHAT ARE TREATMENT OPTIONS FOR CHEMOTHERAPY-RELATED ORAL ULCERS AND XEROSTOMIA (DRY MOUTH)?

What are the best treatment options for oral ulcers in patients undergoing chemotherapy? What do you recommend for dry mouth associated with chemotherapy? —Nathan Britt, ANP-C

**Oral ulcers** Unfortunately, therapeutic advances in the treatment of mucositis are limited. Most studies on preventive or treatment methods for mucositis have been small, uncontrolled trials. Results

tend to be conflicting, and overall, no therapy has demonstrated consistent efficacy in preventing or hastening recovery of mucositis.

The most important recommendation is to maintain good oral health care (salt and soda rinses, brushing with a soft toothbrush). A variety of mucosal coating agents have been used to protect the mucosal surfaces in the oral cavity (eg, Gelclair, Orabase, topical kaolin/pectin, and oral antacids). However, use of these agents is not supported by evidence. Gelclair is popular; it provides a physical adherent barrier over the mucosal surfaces, thus shielding the oral lesion(s) from the effects of food, liquids, and saliva. If the oral ulcers are associated with pain, then topical lidocaine may be used.

Magic mouthwash is an option as well. This consists of equal parts of viscous lidocaine, diphenhydramine, and magnesium hydroxide/aluminum hydroxide (Maalox). Systemic opiates such as morphine are recommended for pain. The Multinational Association of Supportive Care in Cancer (MASCC) provides clinical practice guidelines for the prevention and treatment of mucositis. MASCC recommends using a patient-controlled analgesia with morphine as the treatment of choice for patients undergoing hematopoietic stem cell transplantation (HSCT). In addition, MASCC recommends palifermin (Kepivance), a keratinocyte growth factor-1, 60 mcg/kg/day for 3 days prior to treatment and 3 days posttransplantation for the prevention of mucositis in patients receiving high-dose chemotherapy regimens with or without total body irradiation plus HSCT. Cryotherapy is recommended with high dose melphalan regimens.

**Xerostomia** Pilocarpine (Isopto Carpine, Salagen, generics) is recommended to improve xerostomia in patients undergoing radiation therapy for head and neck cancer. It should be administered following radiation therapy, not during therapy. Use of parotid-sparing intensity-modulated radiation therapy is the recommended radiotherapy modality for patients with head and neck cancer because risks for salivary gland hypofunction and xerostomia are lower. Oral mucosal lubricants or saliva substitutes (Biotene) are recommended for short-term improvement of xerostomia following radiation. For a nonpharmacologic option, acupuncture can be used to stimulate salivary gland secretion, which will alleviate xerostomia. —Sandra Cuellar, PharmD, BCOP

### SOURCES

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The most important recommendation is to maintain good oral health care. A variety of mucosal coating agents have been used to protect mucosal surfaces in the oral cavity. However, use of these agents is not supported by evidence.

The HPV vaccine is administered in three doses over 6 months. The CDC recommends that the second dose be given 1 to 2 months after the first dose, and the third dose be given 6 months after the first dose.

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### **BORTEZOMIB: SUBCUTANEOUS ADMINISTRATION VERSUS IV ADMINISTRATION**

I recently heard about administering bortezomib (Velcade) subcutaneously. Are there any recommendations on this? —Robert Darnell, R.N, OCN

*Subcutaneous administration of bortezomib (Velcade) was compared to IV administration of the drug in the phase 3 MMY-3021 non-inferiority study.<sup>1</sup> A 52% response rate was demonstrated in each arm after 10 cycles, including 23% and 22% complete response or near-complete response with subcutaneous and IV administration, respectively. Results included time to progression, median 9.7 months versus 9.6 months; progression-free survival, median 9.3 months versus 8.4 months; and overall survival at 1-year, 76.4% versus 78%. Incidence of peripheral neuropathy was significantly lower with subcutaneous administration versus IV administration (all grades: 38% vs. 53%; grade  $\geq 2$ : 24% vs. 41%; grade  $\geq 3$ : 6% vs. 16%).<sup>1</sup>*

*The researchers concluded subcutaneous administration of bortezomib is noninferior to IV administration of bortezomib, and can be used as a treatment option in patients.<sup>1</sup> The subcutaneous route did not impact efficacy and improved tolerability in regard to peripheral neuropathy. If the subcutaneous route is used, note that reconstitution and subsequent concentration is different depending on the route of administration. The final concentration of bortezomib is 2.5 mg/mL for subcutaneous administration versus 1 mg/mL for IV administration. —Sandra Cuellar, PharmD, BCOP*

#### **REFERENCE**

1. Arnulf B, Pylypenko H, Grosicki S, et al. Updated survival analysis of a randomized, phase 3 study of subcutaneous versus intravenous bortezomib in patients with relapsed multiple myeloma [published online ahead of print June 11, 2012]. *Haematologica*. 2012.

### **WHAT ARE THE CDC RECOMMENDATIONS FOR HPV VACCINATION?**

What are the recommendations for administering the human papillomavirus (HPV) vaccine? —Robert Darnell, R.N, OCN

*Cervarix and Gardasil are FDA-approved, safe, and effective for females age 9 through 26 years. CDC recommends that all girls 11 or 12 years old receive the three doses of either brand of HPV vaccine to protect against cervical cancer. Gardasil also protects against most genital warts, as well as some cancers of the vulva, vagina, and anus. Girls and young women age 13 through 26 years should receive the HPV vaccine if they have not received any or all the recommended doses when they were younger.*

*Gardasil is also FDA-approved, safe, and effective for males age 9 through 26 years. CDC recommends Gardasil for all boys age 11 or 12 years, and for males age 13 through 21 years, if they did not receive any or all of the three recommended doses when they were younger. All men may receive the vaccine through age 26 years, and should speak with their doctor about if receiving the vaccine is right for them. The vaccine is also recommended for gay men or men who have sex with men and men with compromised immune systems (including HIV) through age 26 years, if they did not receive the full vaccination when they were younger.*

*Gardasil is the only HPV vaccine that protects against HPV types 6 and 11, the types that cause most genital warts in females and males, and is the only HPV vaccine that has been tested and FDA approved for use in males. Although both vaccines protect against HPV-16, which is the most common HPV type responsible for HPV-associated cancers including cancers of cervix, vulva, vagina, penis, anus, and oropharynx, only Gardasil has been tested and shown to protect against precancers of the vulva, vagina, and anus.*

*The HPV vaccine is administered in three doses (injections) over 6 months. The CDC recommends that the second dose be given 1 to 2 months after the first dose, and the third dose be given 6 months after the first dose.*

*HPV vaccines will not treat or cure existing HPV infections. HPV vaccines also do not treat or cure health problems (such as cancer or warts) caused by an HPV infection that was acquired before vaccination. Adult women should still undergo cervical cancer screening even if they have completed the HPV vaccine series. —Sandra Cuellar, PharmD, BCOP ■*