Unique Case Reports

and

Old West Medicine

Journal reports

Interventions

Case reports

SDSU P4 students on APPEs
Preceptor CE
Goal – present unique P4 learning experiences from various APPEs and present a look back in time at Old West Medicine

- Overall Learning Objective
  Pharmacists and Pharmacy Technicians

- Evaluate significant patient safety and drug information situations that confront pharmacy professionals on a daily basis in their practice fields;
Financial disclaimer

- Neither I, nor the other four presenters for this course have any financial relationships to declare.
Presenters

- Catherine Creech - P4
- Estherville, IA
Presenters

- Amber Olson - P4
- Monticello, MN
Presenters

- Mackenzie Klinkhammer – P3
- Elk Point, SD
Presenters

- Jenna Donnely – P3
- Elk Point, SD
Moderator - presenter

- Bernie Hendricks, RPh
  - APPE Coordinator
  - Continuing Education Coordinator
Moderator - presenter

- Bernie Hendricks, RPh
  - APPE Coordinator
  - Continuing Education Coordinator
The Curious Case of Vitamin ______ and Prostate Cancer Resolution

- Case – June 2014:
Quiz question

- What Vitamin E analog is currently being investigated for anti-tumorigenic benefits? _____________________
The Curious Case of Vitamin ______ and Prostate Cancer Resolution

Case – June 2014:

Student on Hospital Pharmacy APPE in Minnesota.

Father diagnosed with prostate cancer (stage 1).
References – additional reading

- **Vitamin E Succinate (VES) – Prostate Cancer**
  - Vitamin E succinate suppresses prostate tumor growth by inducing apoptosis.
  - Malafa MP¹, Fokum FD, Andoh J, Neitzel LT, Bandyopadhyay S, Zhan R, Iizumi M, Furuta E, Horvath E, Watabe K. *Author information*

- **Abstract**
  - Prostate cancer is a major cause of cancer death and morbidity in western countries. However, because of its intrinsic nature of chemoresistance, there is only limited systemic therapy available for the patients. Vitamin E (VE) has been under intensive study as a chemopreventive agent for various types of cancers. Preclinical studies suggest that vitamin E succinate (VES) is the most effective antitumor analogue of VE, yet there are scarce studies of VES in prostate cancer. In this study, we investigated the effects of VES on a panel of prostate cancer cells, and a xenograft model of prostate cancer. Our results indicate that VES significantly inhibited proliferation and induced apoptosis of prostate cancer cell lines in a dose and time dependent manner. The results of microarray analysis followed by real-time RT-PCR and inhibitor analyses indicated that the VES-induced apoptosis is mediated by caspase-4 in prostate tumor cells. In our animal model of prostate cancer in SCID mouse, daily injection of VES significantly suppressed tumor growth as well as lung metastases. These results suggest a potential therapeutic utility of VES for patients with prostate cancer.
References – additional reading

- **Vitamin E Succinate (VES) – Lung Cancer**

  v.89(10); 2003 Nov 17

- **Vitamin E succinate** and **cancer** treatment: a **vitamin E** prototype for selective ...  
  syngeneic mouse mammary tumor burden and reduces **lung** metastasis. Mol **Cancer** ...


Vitamin E Succinate (VES) – Colon Cancer

- Vitamin E succinate is a potent novel antineoplastic agent with high selectivity and cooperativity with tumor necrosis factor-related apoptosis-inducing ligand (Apo2 ligand) in vivo.


Author information

Abstract

Alpha-tocopheryl succinate (alpha-TOS), a redox-inactive analogue of vitamin E, is a strong inducer of apoptosis, whereas alpha-tocopherol (alpha-TOH) lacks apoptogenic activity (J. Neuzil et al., FASEB J., 15: 403-415, 2001). Here we investigated the possible antineoplastic activities of alpha-TOH and alpha-TOS and further explored the potential of alpha-TOS as an antitumor agent. Using nude mice with colon cancer xenografts, we found that alpha-TOH exerted modest antitumor activity and acted by inhibiting tumor cell proliferation. In contrast, alpha-TOS showed a more profound antitumor effect, at both the level of inhibition of proliferation and induction of tumor cell apoptosis. alpha-TOS was nontoxic to normal cells and tissues, triggered apoptosis in p53(-/-) and p21(Waf1/Cip1(-/-)) cancer cells, and exerted a cooperative proapoptotic activity with tumor necrosis factor-related apoptosis-inducing ligand (Apo2 ligand) due to differences in proapoptotic signaling. Finally, alpha-TOS cooperated with tumor necrosis factor-related apoptosis-inducing ligand in suppression of tumor growth in vivo. Vitamin E succinate is thus a potent and highly specific anticancer agent and/or adjuvant of considerable therapeutic potential.
References – additional reading

Vitamin E Succinate (VES) – Pancreatic Cancer

- by T Heisler - 2000 - Cited by 18 - Related articles

**Vitamin E succinate inhibits survivin and induces apoptosis in pancreatic cancer cells.** Dorrelyn Patacsil, Sylvester Osayi, Anh Thu Tran, Francisco Saenz  
[www.ncbi.nlm.nih.gov › Journal List › Genes Nutr › v.7(1); Jan 2012](https://www.ncbi.nlm.nih.gov › Journal List › Genes Nutr › v.7(1); Jan 2012)  
- by D Patacsil - 2012 - Cited by 9 - Related articles
Vitamin E Succinate (VES) – Melanoma

- Inhibition of angiogenesis and promotion of melanoma...
- www.ncbi.nlm.nih.gov/p...
- National Center for Biotechnology Information
- by MP Malafa - 2002 - Cited by 75 - Related articles

BACKGROUND: Relapse of melanoma after surgical treatment remains a significant clinical problem in need of novel therapies. Vitamin E succinate (VES) is a...
Thank you.