

UC Davis

Dermatology Online Journal

Title

Artri King induced Cushing syndrome in an 82-year-old man

Permalink

<https://escholarship.org/uc/item/0fz1214h>

Journal

Dermatology Online Journal, 31(3)

Authors

Choi, Suyoung

Youn, Christopher

Yang, Vivian

et al.

Publication Date

2025

DOI

10.5070/D331365365

Copyright Information

Copyright 2025 by the author(s). This work is made available under the terms of a Creative Commons Attribution-NonCommercial-NoDerivatives License, available at <https://creativecommons.org/licenses/by-nc-nd/4.0/>

Peer reviewed

Case Presentation

Artri King induced Cushing syndrome in an 82-year-old man

Suyoung Choi, BA¹, Christopher Youn, MD¹, Vivian Yang, MS², Christina Bax, MD¹, Gordon Bae, MD^{1a}

¹ Department of Dermatology, Stanford University School of Medicine, Stanford, California, United States, ² School of Medicine, University of California San Francisco, San Francisco, California, United States

Keywords: artri king, cushing disease, herbals, supplements

Dermatology Online Journal

Vol. 31, Issue 3, 2025

Abstract

An 82-year-old man with a history of hypertension, thyroid nodule, and parkinsonism on carbidopa/levodopa was referred for a sudden eruption of scattered purpuric macules. He noted fatigue, weakness, ankle swelling, abdominal fullness, headaches, lapses in memory, and dysphasia. On physical examination, he had thin and atrophied upper extremities and central obesity, as well as nonblanching red to purple macules on the lower abdomen and ecchymosis on bilateral arms. The patient denied the use of any corticosteroids. Lab workup showed an abnormally high post-dexamethasone cortisol level, which raised suspicion for Cushing syndrome. Further inquiry into the patient's medication and supplement history revealed that he was consuming Artri King, a supplement marketed for the treatment of joint pain and arthritis. Artri King can lead to numerous dermatological manifestations akin to endogenous Cushing syndrome such as thin skin, easy bruising, and purple striae. This case illustrates the potential risks of over-the-counter dietary supplements, which often circumvent the strict Food and Drug Administration regulations applied to prescription medications, posing significant health hazards to users. There is a critical need for transparency and regulation of supplements.

Introduction

On April 20, 2022, the Food and Drug Administration (FDA) warned against purchase and use of Artri King, an over-the-counter preparation for joint pains and arthritis, because of adverse side effects related to the unlisted presence of dexamethasone and diclofenac in the marketed preparation.¹

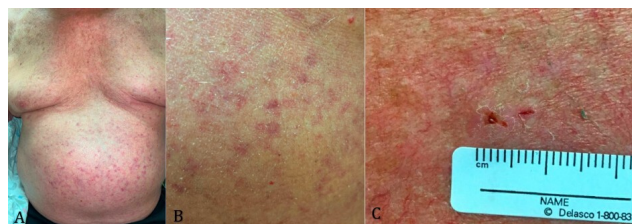


Figure 1. A-C) Nonblanching red to purple macules on the lower abdomen.

Case Synopsis

An 82-year-old man with history of hypertension, thyroid nodule, and parkinsonism on carbidopa/levodopa was referred for a sudden eruption of scattered purpuric macules to rule out vasculitis.

For the past several months, he noted significant fatigue, weakness, ankle swelling, abdominal fullness, headaches, mental fog, lapses in memory, and dysphasia. On physical examination, he had thin and atrophied upper extremities and central obesity, as well as telangiectasia and nonblanching red to purple macules on the lower abdomen ([Figure 1A-C](#)) and ecchymosis on bilateral arms. C-shaped, symmetric, purple, nonblanching patches and cutaneous atrophy were also noted on his back ([Figure 2A-B](#)). Punch biopsies of the right chest and abdomen were performed and were notable for superficial dermal hemorrhage, suggestive of petechiae or ecchymoses without vasculitis ([Figure 3](#)). Given the clinical findings, a cortisol abnormality was suspected, but the patient denied the use of any oral, intralesional, or inhaled corticosteroids.

Given the patient's history and presentations, computed tomography scans of the chest, abdomen, and pelvis as well as thyroid ultrasonography were conducted which revealed a hypervascular and asymmetrically enlarged right thyroid lobe. A I-123 thyroid uptake scan delineated a hypofunctioning nodule. Lab workups, including a dexamethasone suppression test showed an

^a Corresponding Author: Gordon Bae MD, Department of Dermatology, 450 Broadway, Pavilion C, 2nd Floor, Redwood City, CA, 94063, Tel: 650-721-7190, Email: gbae@stanford.edu

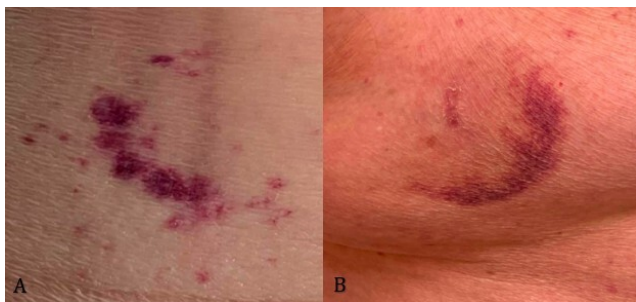


Figure 2. A-B) C-shaped, symmetric, purple, nonblanching patches on back.

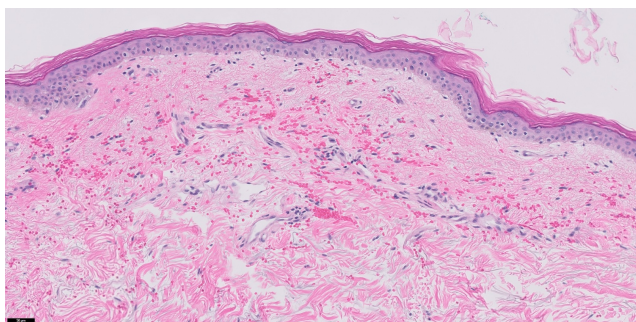


Figure 3. A punch biopsy from the left upper back showed mild superficial dermal hemorrhage with no other significant histopathologic abnormalities (hematoxylin and eosin stain, 200x original magnification; scale bar is 50µm).

abnormally high post-dexamethasone cortisol of 3.3 (normal < 1.8), which raised suspicions for Cushing syndrome. However, subsequent urinary and salivary cortisol assessments were negative for hypercortisolemia, indicating exogenous rather than endogenous causes. The patient's consistently low baseline cortisol levels, unresponsive to dexamethasone, coupled with low adrenocorticotrophic hormone levels, suggested a possible suppression of the hypothalamic-pituitary-adrenal (HPA) axis. Further inquiry into the patient's medication and supplement history revealed that he was consuming Artri King, an over-the-counter supplement marketed for the treatment of joint pain and arthritis. It was determined that this preparation was the cause of our patient's Cushing syndrome.

Case Discussion

Artri King was recalled in 2022 by the FDA owing to the presence of undeclared substances, dexamethasone and

diclofenac.^{1,2} Consumption of Artri King can lead to numerous dermatological manifestations akin to endogenous Cushing syndrome such as thin skin, easy bruising, and purple striae, predominantly in the abdominal region.^{3,4} Although these symptoms typically arise related to prolonged exposure to high cortisol levels, they can also be imitated by exogenous cortisol analogs like dexamethasone. This incident highlights the range of adverse events associated with these over-the-counter supplements, ranging from rashes, autoimmune disease activation, and gastrointestinal disturbances to cardiovascular complications and liver toxicity.⁵ Another case report published in 2023 reported three patients who developed iatrogenic HPA axis disruption while taking Artri King and presented similarly to our patient with elevated dexamethasone levels and cushingoid features.⁶ Among the two patients who were not lost to follow-up in the previous case report, both recovered fully after cessation of the supplement.⁶ In 2018, Tucker et al analyzed a decade of FDA drug warnings and identified over 700 adulterated dietary supplements. However, the majority of these products were for muscle building, weight loss, or sexual enhancement; joint supplement adulteration, as noted in this report, were relatively rare.⁷ Regardless, cases like ours call for more stringent quality control, proper labelling, and regulatory measures to ensure the safety of these widely used products.

In the present case, discontinuation of Artri King led to prompt normalization of the patient's cortisol levels, indicating a reversible suppression of the HPA axis. Initially, the addition of corticosteroids to supplement HPA axis recovery was considered but ultimately was not needed as the patient exhibited significant improvement solely from Artri King cessation.

Conclusion

This case illustrates the potential risks of over-the-counter dietary supplements, which often circumvent the strict FDA regulation applied to prescription medications, posing significant health hazards to users. There is a need for transparency and regulation of supplements. This case further emphasizes the importance of taking a thorough and detailed medical history that includes the use of over-the-counter supplements.

Potential conflicts of interest

The authors declare no conflicts of interest.

References

1. Public Notification: Artri King contains hidden drug ingredients. U.S. Food and Drug Administration. 2022. Accessed May 25, 2025. <https://www.fda.gov/drugs/medication-health-fraud/public-notification-artri-king-contains-hidden-drug-ingredients>
2. FDA warns consumers not to purchase or use Artri and Ortiga products, which may contain hidden drug ingredients. U.S. Food and Drug Administration. 2023. Accessed May 25, 2025. <https://www.fda.gov/drugs/drug-safety-and-availability/fda-warns-consumers-not-purchase-or-use-artri-and-ortiga-products-which-may-contain-hidden-drug>
3. Hopkins RL, Leinung MC. Exogenous Cushing's syndrome and glucocorticoid withdrawal. *Endocrinol Metab Clin North Am*. 2005;34:371-384. doi:[10.1016/j.ecl.2005.01.013](https://doi.org/10.1016/j.ecl.2005.01.013). PMID:15850848
4. Raff H, Carroll T. Cushing's syndrome: from physiological principles to diagnosis and clinical care. *J Physiol*. 2015;593:493-506. doi:[10.1113/jphysiol.2014.282871](https://doi.org/10.1113/jphysiol.2014.282871). PMID:25480800
5. Genuis SJ, Schwalfenberg G, Siy AKJ, Rodushkin I. Toxic element contamination of natural health products and pharmaceutical preparations. *PLoS One*. 2012;7:e49676. doi:[10.1371/journal.pone.0049676](https://doi.org/10.1371/journal.pone.0049676). PMID:23185404
6. Berg EA, Dao L, Yu R, Hurtado C. Artri King-induced Hypothalamic-pituitary-adrenal Axis Disruption: A Report of 3 Cases. *JCEM Case Rep*. 2023;2(1). doi:[10.1210/jcemcr/luad154](https://doi.org/10.1210/jcemcr/luad154). PMID:38116163
7. Tucker J, Fischer T, Upjohn L, Mazzer D, Kumar M. Unapproved pharmaceutical ingredients included in dietary supplements associated with US Food and Drug Administration warnings. *JAMA Netw Open*. 2018;1:e183337-e183337. doi:[10.1001/jamanetworkopen.2018.3337](https://doi.org/10.1001/jamanetworkopen.2018.3337). PMID:30646238