Letters to the Editor

Send letters to afplet@aafp.org, or 11400 Tomahawk Creek Pkwy., Leawood, KS 66211-2680. Include your complete address, e-mail address, and telephone number. Letters should be fewer than 400 words and limited to six references, one table or figure, and three authors.

Letters submitted for publication in *AFP* must not be submitted to any other publication. Possible conflicts of interest must be disclosed at time of submission. Submission of a letter will be construed as granting the AAFP permission to publish the letter in any of its publications in any form. The editors may edit letters to meet style and space requirements.

This series is coordinated by Kenny Lin, MD, MPH, Associate Deputy Editor for *AFP* Online.

Radiation Dermatitis Often Misdiagnosed as Contact Dermatitis

Original article: Red Rash on the Back (Photo Quiz)

Issue date: April 15, 2015

Available online at: http://www.aafp.org/afp/2015/0415/p557.html

TO THE EDITOR: We believe that the rash depicted in this Photo Quiz is more consistent with a diagnosis of radiation dermatitis than with irritant contact dermatitis as suggested by the authors.

A five-hour coronary stent procedure is usually associated with a significant dose of radiation. A typical threshold for radiation burns is more than 5 Gy (total body absorbed dose), although skin changes may occur with a dose of more than 2 Gy.[1] Complex interventional procedures sometimes involve up to 10 Gy of radiation.

Exposure to a radiation dose exceeding the recommended threshold can lead to radiation dermatitis, diarrhea, and headache. Cutaneous radiation syndrome begins within hours of exposure and is associated with pruritus and erythema. A latent phase may then begin, which can last days to weeks. Symptoms may progress to include blistering, ulceration, and possible necrosis. In severe cases, involvement of subcutaneous tissue and fat requires skin grafts to maintain adequate tissue coverage.[2]

Radiation dermatitis is often misdiagnosed as contact dermatitis. The well-circumscribed rash described in this Photo Quiz is not caused by a grounding pad (which is not used in cardiac catheterization procedures); rather it is due to the source of radiation—the image intensifier in this case.

When a prolonged cardiac catheterization procedure is performed and the image intensifier is maintained in a constant radiographic projection, radiation dermatitis can occur.

Mild radiation dermatitis may be treated with topical emollients when desquamation is present, or with moderate-potency topical corticosteroids for pruritus. More severe radiation dermatitis may require protective dressings to control symptoms such as blisters and weeping, and to prevent secondary infection. High-grade radiation dermatitis warrants consultation with a radiation oncologist or dermatologist for possible tissue debridement.[3] It is the responsibility of the interventional cardiologist to notify the primary care physician of any prolonged procedure involving significant radiation (more than 5 Gy) so that the condition can be recognized and treated in a timely manner.

JENNIFER LOGAN, MD
JASON HOVE, MD
GOPI MANTHRIPRAGADA, MD, FACC
Redondo Beach, Calif.
E-mail: JHove@mednet.ucla.edu

Author disclosure: No relevant financials affiliations.

REFERENCES

1. Slovut DP. Cutaneous radiation injury after complex coronary intervention. *JACC Cardiovasc Interv.* 2009;2(7):701-702.
2. Centers for Disease Control and Prevention. Emergency preparedness and response. Cutaneous radiation injury. http://emergency.cdc.gov/radiation/criphysicianfactsheet.asp. Accessed April 29, 2015.
3. Wong RK, Bensadoun RJ, Boers-Doets CB, et al. Clinical practice guidelines for the prevention and treatment of acute and late radiation reactions from the MASCC Skin Toxicity Study Group. *Support Care Cancer.* 2013;21(10):2933-2948.

IN REPLY: We appreciate the interesting alternative diagnosis presented by the authors of this letter. The key element of this Photo Quiz was identifying the best diagnosis from a preselected list; therefore, even if the authors are correct, the best answer to the question remains irritant contact dermatitis.

Clinical clues strongly support irritant contact dermatitis. The rash lacks two hallmarks of significant radiation dermatitis: pain and ulceration.[1] In simple catheterization procedures, a Bovie with grounding pad might not be used. However, with pathology ▶

like this one, for which a percutaneous approach is expected to fail, patients are routinely prepped for an open bypass procedure (including placement of a grounding pad) at onset to avoid a delay during conversion. The dimensions of the rash offer further evidence. The grounding pad used measures 8.9 cm × 15.2 cm, whereas the half-value layer attenuator is 10 cm × 10 cm. The patient's rectangular rash is consistent with the shape of the grounding pad.

For refractory cases with an unclear diagnosis, biopsy can help differentiate radiation and irritant contact dermatitis. The former may be distinguished by characteristic atypical keratinocytes early on, and by atypical radiation fibroblasts with higher radiation doses.[2] In this case, the clinical diagnosis did not warrant biopsy, and the patient responded to therapy for irritant contact dermatitis.

ROBERT P. LENNON, MD, JD
Okinawa, Japan
E-mail: Robert.Lennon@med.navy.mil

Author disclosure: No relevant financial affiliations.

REFERENCES

1. Hymes SR, Strom EA, Fife C. Radiation dermatitis: clinical presentation, pathophysiology, and treatment 2006. *J Am Acad Dermatol.* 2006;54(1):28-46.
2. Weedon D, Strutton G, Rubin AI. *Weedon's Skin Pathology.* 3rd ed. Edinburgh, United Kingdom: Churchill Livingstone/Elsevier; 2010:614-615.

Increasing Potassium Intake May Help Mitigate Cardiovascular Risk

Original article: Nonpharmacologic Management of Hypertension: What Works?

Issue date: June 1, 2015

See additional reader comments at: http://www.aafp.org/afp/2015/0601/p772.html

TO THE EDITOR: Many of my patients with hypertension are interested in avoiding medication, so I appreciate the insights and practice pointers contained in this article.

Conspicuously absent from the discussion, however, is dietary potassium. Perhaps this is because Drs. Oza and Garcellano chose to rely primarily on recommendations from the 2013 American Heart Association/American College of Cardiology (AHA/ACC) guidelines on lifestyle management to reduce cardiovascular risk, which concluded there was insufficient evidence that increasing dietary potassium intake lowers blood pressure.[1]

The same year those guidelines were published, a meta-analysis evaluating the role of potassium in modulating cardiovascular risk factors reached a different conclusion, finding good evidence that increased potassium intake lowers blood pressure.[2] The magnitude of the effect—3.5 mm Hg systolic and 2 mm Hg diastolic—is probably also clinically relevant.

The review by Drs. Oza and Garcellano mentioned the possible but far from conclusive benefits of dietary supplements such as garlic and cocoa. However, it is also worth emphasizing potassium's potential role in helping patients reduce their blood pressure. This advice is implicit in widely accepted antihypertensive dietary guidelines. For example, the Dietary Approaches to Stop Hypertension diet, which the AHA/ACC guidelines endorse, is formulated to be higher in potassium than the average American diet.[3]

Persons at risk of hyperkalemia, such as those who have chronic kidney disease or take medicines that inhibit the renin-angiotensin-aldosterone system, should use caution in increasing their dietary potassium intake. However, for other patients with hypertension, increasing dietary potassium may be another reason to eat plenty of fruits and vegetables.

NOAH WOHLERT, MD
Chapel Hill, N.C.
E-mail: noah.wohlert@unchealth.unc.edu

Author disclosure: No relevant financial affiliations.

REFERENCES

1. Eckel RH, Jakicic JM, Ard JD, et al. 2013 AHA/ACC guideline on lifestyle management to reduce cardiovascular risk: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines [published corrections appear in *Circulation.* 2014;129(25 suppl 2):S100-S101, and *Circulation.* 2015;131(4):e326]. *Circulation.* 2014;129(25 suppl 2):S76-S99.
2. Aburto NJ, Hanson S, Gutierrez H, Hooper L, Elliott P, Cappuccio FP. Effect of increased potassium intake on cardiovascular risk factors and disease: systematic review and meta-analyses. *BMJ.* 2013;346:f1378.
3. Sacks FM, Svetkey LP, Vollmer WM, et al.; DASH-Sodium Collaborative Research Group. Effects on blood pressure of reduced dietary sodium and the Dietary Approaches to Stop Hypertension (DASH) diet. *N Engl J Med.* 2001;344(1):3-10.

Corrections

Omitted sentence about preventive therapy for delirium. The article "Delirium in Older Persons: Evaluation and Management," (August 1, 2014, page 150) had a missing sentence in the second paragraph of the section under "Treatment in Various Settings" (p. 156). After the fourth sentence, the following sentence should have appeared: "Preliminary evidence suggests that melatonin and melatonin agonists may help prevent delirium in hospitalized elderly patients.[42]" The online version of this article has been corrected.

Incorrect algorithms. The article "Diagnosis and Management of Sodium Disorders: Hyponatremia and ▶

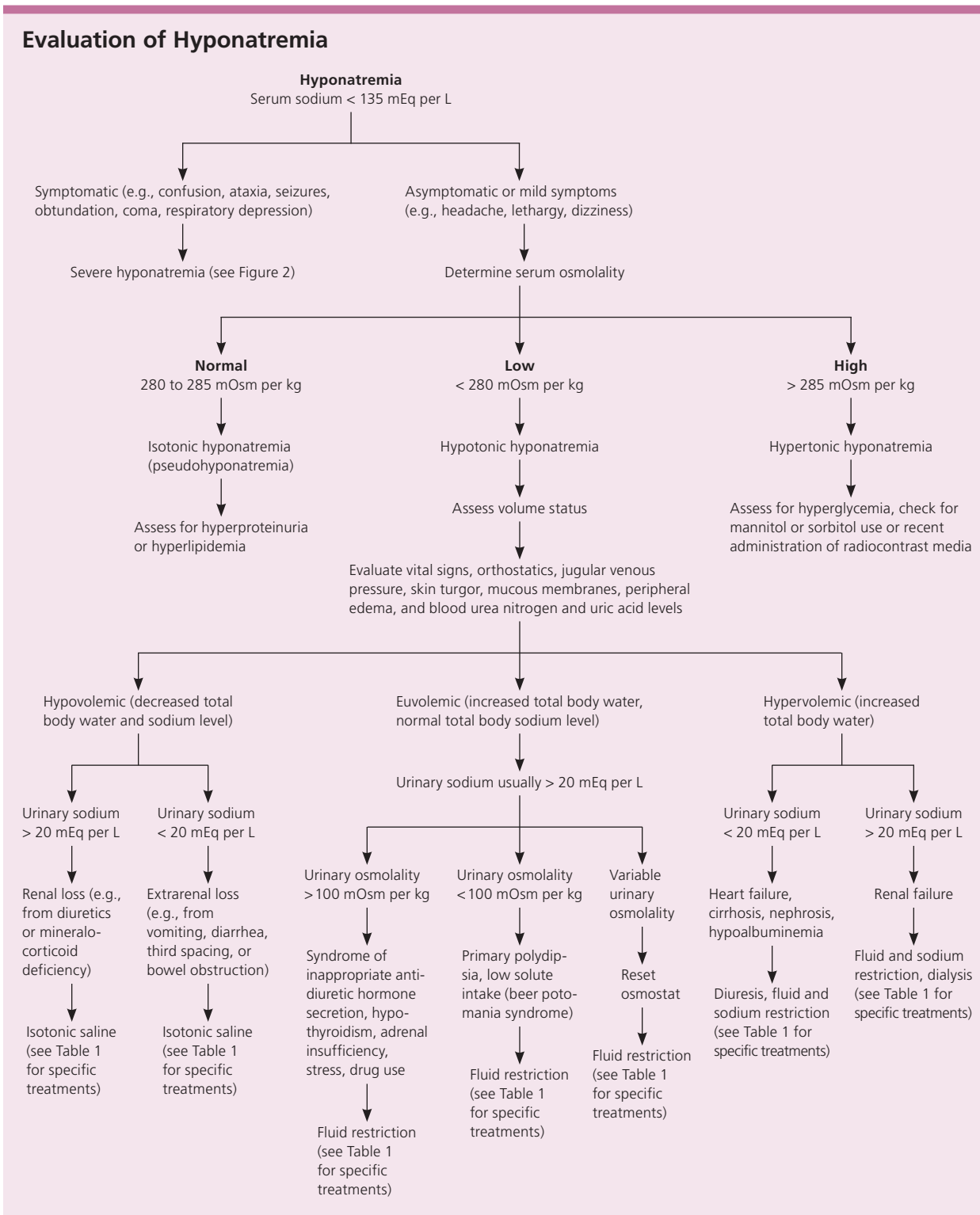

Figure 1. Algorithm for the evaluation of hyponatremia.

Information from references 11 through 16.

Hypernatremia" (March 1, 2015, p. 299) contained errors in Figure 1 (p. 301) and Figure 2 (p. 304). In Figure 1, the urinary sodium values for hypervolemic hyponatremia were transposed. The algorithm should have showed that urinary sodium < 20 mEq per L may indicate heart failure, cirrhosis, nephrosis, and hypoalbuminemia, whereas urinary sodium > 20 mEq per L may indicate renal failure. Figure 2 should have indicated that desmopressin ▶

Efficacy of Fluzone High-Dose in Adults 65 Years of Age and Older

Study 2 (NCT01427309) was a multi-center, double-blind post-licensure efficacy trial conducted in the US and Canada in which adults 65 years of age and older were randomized (1:1) to receive either Fluzone High-Dose or Fluzone. The study was conducted over two influenza seasons (2011-2012 and 2012-2013); 53% of participants enrolled in the first year of the study were re-enrolled and re-randomized in the second year. The per-protocol analysis set for efficacy assessments included 15,892 Fluzone High-Dose recipients and 15,911 Fluzone recipients. The majority (67%) of participants in the per-protocol analysis set for efficacy had one or more high-risk chronic comorbid conditions.

In the per-protocol analysis set, females accounted for 57.2% of participants in the Fluzone High-Dose group and 56.1% of participants in the Fluzone group. In both groups, the median age was 72.2 years (range 65 through 100 years). Overall, most participants in the study were White (95%); approximately 4% of study participants were Black, and approximately 6% reported Hispanic ethnicity.

The primary endpoint of the study was the occurrence of laboratory-confirmed influenza (as determined by culture or polymerase chain reaction) caused by any influenza viral type/subtype in association with influenza-like illness (ILI), defined as the occurrence of at least one of the following respiratory symptoms: sore throat, cough, sputum production, wheezing, or difficulty breathing; concurrent with at least one of the following systemic signs or symptoms: temperature >99.0°F, chills, tiredness, headaches or myalgia. Participants were monitored for the occurrence of a respiratory illness by both active and passive surveillance, starting 2 weeks post-vaccination for approximately 7 months. After an episode of respiratory illness, nasopharyngeal swab samples were collected for analysis; attack rates and vaccine efficacy were calculated (see Table 3).

Table 3: Study 2[a]: Relative Efficacy Against Laboratory-Confirmed Influenza[b] Regardless of Similarity to the Vaccine Components, Associated with Influenza-Like Illness[c], Adults 65 Years of Age and Older

	Fluzone High-Dose N[d]=15,892 n[e] (%)	Fluzone N[d]=15,911 n[e] (%)	Relative Efficacy % (95% CI)
Any type/subtype[f]	227 (1.43)	300 (1.89)	24.2 (9.7; 36.5)[g]
Influenza A	190 (1.20)	249 (1.56)	23.6 (7.4; 37.1)
A (H1N1)	8 (0.05)	9 (0.06)	11.0 (-159.9; 70.1)
A (H3N2)	171 (1.08)	222 (1.40)	22.9 (5.4; 37.2)
Influenza B[h]	37 (0.23)	51 (0.32)	27.4 (-13.1; 53.8)

[a] NCT01427309
[b] Laboratory-confirmed: culture- or polymerase-chain-reaction-confirmed
[c] Occurrence of at least one of the following respiratory symptoms: sore throat, cough, sputum production, wheezing, or difficulty breathing; concurrent with at least one of the following systemic signs or symptoms: temperature >99.0°F, chills, tiredness, headaches or myalgia
[d] N is the number of vaccinated participants in the per-protocol analysis set for efficacy assessments
[e] n is the number of participants with protocol-defined influenza-like illness with laboratory confirmation
[f] Primary endpoint
[g] The pre-specified statistical superiority criterion for the primary endpoint (lower limit of the 2-sided 95% CI of the vaccine efficacy of Fluzone High-Dose relative to Fluzone >9.1%) was met.
[h] In the first year of the study the influenza B component of the vaccine and the majority of influenza B cases were of the Victoria lineage; in the second year the influenza B component of the vaccine and the majority of influenza B cases were of the Yamagata lineage

A secondary endpoint of the study was the occurrence of culture-confirmed influenza caused by viral types/subtypes antigenically similar to those contained in the respective annual vaccine formulations in association with a modified CDC-defined ILI, defined as the occurrence of a temperature >99.0°F (>37.2°C) with cough or sore throat. The efficacy of Fluzone High-Dose relative to Fluzone for this endpoint was 51.1% (95% CI: 16.8; 72.0).

REFERENCES

1. Lasky T, Terracciano GJ, Magder L, et al. The Guillain-Barré syndrome and the 1992-1993 and 1993-1994 influenza vaccines. N Engl J Med 1998;339:1797-802.

2. Baxter, R, et al. Lack of Association of Guillain-Barré Syndrome with Vaccinations. Clin Infect Dis 2013;57(2):197-204.

HOW SUPPLIED/STORAGE AND HANDLING

How Supplied

Single-dose, prefilled syringe, without needle, 0.5 mL (NDC 49281-397-88) (not made with natural rubber latex). Supplied as package of 10 (NDC 49281-397-65).

Storage and Handling

Store Fluzone High-Dose refrigerated at 2° to 8°C (35° to 46°F). DO NOT FREEZE. Discard if vaccine has been frozen. Do not use after the expiration date shown on the label.

PATIENT COUNSELING INFORMATION

See FDA-approved patient labeling (Patient Information).

- Inform the patient or caregiver that Fluzone High-Dose contains killed viruses and cannot cause influenza.
- Among persons aged 65 years and older, Fluzone High-Dose stimulates the immune system to produce antibodies that help protect against influenza.
- Among persons aged 65 years and older, Fluzone High-Dose offers better protection against influenza as compared to Fluzone.
- Annual influenza vaccination is recommended.
- Instruct vaccine recipients and caregivers to report adverse reactions to their healthcare provider and/or to Vaccine Adverse Event Reporting System (VAERS).

Manufactured by:
Sanofi Pasteur Inc.
Swiftwater PA 18370 USA
MKT29937

Product information
as of June 2015.
Printed in USA
6750

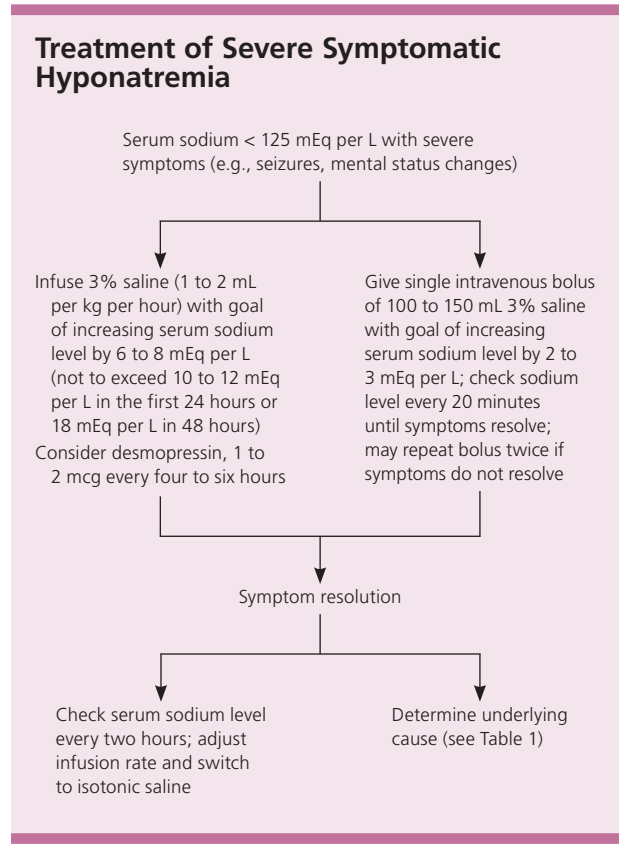

Figure 2. Algorithm for the treatment of severe symptomatic hyponatremia.

Information from references 13, 14, and 20 through 23.

1 to 2 mcg every four to six hours should be considered only after the infusion of 3% saline (1 to 2 mL per kg per hour). The corrected figures are printed above and on p. 432, and the online version of the article has been corrected.

Incorrect laboratory findings. The article "Evaluation and Treatment of Infertility" (March 1, 2015, p. 308) contained an error in Table 3 (p. 310) titled "Etiology and Evaluation of Infertility." In the fourth row, "Ovulatory disorder," the "History and physical examination" column indicated that hair loss may be noted, which may indicate hypothyroidism. However, the "Laboratory and radiologic testing" column indicated that the thyroid-stimulating hormone (TSH) level would be low. TSH levels would be elevated in a patient with hypothyroidism. The online version of the article has been corrected. ■