Accepted for Publication: October 24, 2012.
Published Online: March 20, 2013. doi:10.1001/jamadermatol.2013.2143
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Author Contributions: All authors had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis. *Study concept and design:* Shi, Nanda, Lee, Armstrong, and Lio. *Acquisition of data:* Shi, Nanda, and Lio. *Analysis and interpretation of data:* Shi, Lee, Armstrong, and Lio. *Drafting of the manuscript:* Shi and Lee. *Critical revision of the manuscript for important intellectual content:* Shi, Nanda, Armstrong, and Lio. *Statistical analysis:* Lee and Armstrong. *Obtained funding:* Shi and Lio. *Administrative, technical, and material support:* Shi, Nanda, Lee, and Lio. *Study supervision:* Armstrong and Lio.
Conflict of Interest Disclosures: None reported.
Funding/Support: This study was supported in part by Research and Education Grant, Fondation Pour La Dermatite Atopique, Toulouse, France.
Role of the Sponsors: The sponsors had no role in the design and conduct of the study; in the collection, analysis, and interpretation of data; or in the preparation, review, or approval of the manuscript.
Online-Only Material: The eAppendixes are available at http://www.jamaderm.com.
Additional Contributions: We thank Khiem Tran, PhD, for his critical reading of the manuscript. We also thank Keren Horn, MD, Meyer Horn, MD, and Neha Robinson, MD, for generously allowing us to conduct this study in their office.

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PRACTICE GAPS

Engaging Patients in Eczema Care From Planning Through Implementation

Although the use of visual aids and action plans is not new in chronic disease management, their use in the dermatologic setting is relatively novel. Engaging patients with eczema in their treatment planning is essential because the patients have a disease that is incurable and relies heavily on patient management of triggers and symptoms. As demonstrated by Shi et al,[1] patients find a visual aid helpful and acceptable when discussing treatment for their eczema. More than mere instructions, an action plan details daily management, avoidance of triggers, and handling exacerbations. It is not currently known if dermatologists currently give instructions to patients that focus solely on routine or include other parts of an action plan. One practice gap is that we do not know what proportion of dermatologists think of eczema as a disease that merits the creation of a patient action plan and is well suited to this paradigm of management.

A second practice gap highlighted by Shi et al[1] is related to the use of patient educational materials. It is well known that patient recall is not perfect, and even patients who understand their treatment plan at the time of the visit may forget important components later on. Many clinicians rely solely on spoken instructions; however, research has found that, generally, patient recall is enhanced when the spoken word is augmented with written instructions.[2]

Much work has gone into design and testing of patient education materials. Although excellent materials may exist about atopic dermatitis, these are not tailored for the individual patient and his or her symptoms and treatment plan. Clinicians are often concerned that tailoring materials will require extra time. However, the clarity that is gained may save later phone calls and office visits to correct misunderstood information. If clinicians believe that current materials are inadequate for their practice, simple rules related to plain language and health literacy concerns are readily available.[3]

An additional gap when giving instructions regarding topical medications is failing to provide physical or visual demonstrations, which may be even more important than verbal communication. Clinicians need to keep in mind that they are asking patients to remember procedural (ie, physical) information and that encoding of memories is enhanced by acting out the procedure.[4] Showing patients how to apply medications and having them demonstrate such application may increase the chances that the medications are applied appropriately and result in better adherence to the treatment plan.

There are many barriers to engaging patients in this manner. Finding or revising patient materials, changing one's strategy for interacting with patients, and perhaps most importantly, treating patients as equals in this process are not easy tasks. Yet patients have a vested interest in keeping their disease under control, and measures that could empower them to do so have the potential for lasting impact.

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Published Online: March 20, 2013. doi:10.1001/jamadermatol.2013.2866
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Conflict of Interest Disclosures: None reported.

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RESEARCH LETTER

Retrospective Review of Adverse Effects From Propranolol in Infants

Propranolol has been prescribed for decades in infants for various indications, but its effectiveness in the treatment of infantile hemangiomas (IH) was only recently described.[1] Its perceived safety profile and efficacy is shifting the paradigm of IH treatment, which was traditionally reserved for complicated IH,[2] to include less severe cases. The safety of systemic propranolol treatment in infants is not well studied. Reported serious adverse effects include hypoglycemia,[3] bronchospasm, and hypotension.[4] We reviewed a large series of infants treated with propranolol mostly for cardiac indications and aimed to identify serious adverse effects of propranolol that resulted in hospital admission.

See Practice Gaps at end of letter

Methods. A retrospective medical chart review of infants who received propranolol for any indication at the Children's Hospital of Wisconsin (CHW) was conducted after institutional review board approval. The CHW electronic database was searched to find all infants younger than 12 months who received an order for propranolol from 2004 to 2011 during any type of visit (eg, inpatient, outpatient clinic, and emergency department visits). From this group, patients who were subsequently admitted to CHW within 5 years of the initial propranolol order were reviewed to determine the reason for admission and to document serious adverse effects of propranolol, particularly bronchospasm, hypoglycemia, hypotension, and bradycardia.

Results. A total of 512 infants were identified as having received propranolol at CHW from 2004 to 2011. Of these, 132 infants were found to have an inpatient visit within 5 years of propranolol treatment initiation, and their records were reviewed in detail. Our study cohort included 63 female and 69 male infants. Age at initiation of propranolol treatment ranged from 1 day to 12 months. Most of the patients were started on propranolol therapy for cardiac abnormalities. Indications for propranolol included arrhythmias (eg, supraventricular tachycardia), congenital heart disease, esophageal varices, hypertension, and 1 case of IH. Dose at initiation ranged from 0.23 mg/kg/d to 5 mg/kg/d (average, 1-2 mg/kg/d). Frequency of administration ranged from twice daily, or every 12 hours, to 4 times daily, or every 6 hours (average, 3 times daily, or every 8 hours). Duration of therapy varied from 1 day to greater than 6 years. Eighty-seven infants continued therapy for longer than 1 month.

Of the 132 cases reviewed, no hospital admission was directly attributed to an adverse effect of propranolol. However, in 10 of 132 infants reviewed (7.6%), propranolol treatment was discontinued owing to adverse effects (**Table**). Bronchospasm, wheezing, or asthma exacerbation was noted in 7 infants (cases 1-7), and bradycardia was noted on monitoring in 3 infants, resulting in discontinuation of propranolol treatment (cases 8-10). No patient discontinued propranolol treatment for hypoglycemia or hypotension. However, hypoglycemia (serum glucose level, 1 mg/dL [normal, 70-126 mg/dL]) was observed in a 21-month old with a concurrent illness (1 day history of cough, fever, and fussiness, admitted for respiratory distress) who received a dose of propranolol and subsequently became lethargic and decompensated (case 11). (To convert glucose to millimoles per liter, multiply by 0.0555.) Given the complexity of the patient's medical condition, the role of

Table. Clinical Case Descriptions of Infants With Adverse Effects From Propranolol

Case	Propranolol Indication	AE	Age at Initiation	Age at AE	Dose at AE[a]
1	Tachydysrhythmia	Bronchospasm	4.5 mo	14 mo	2 mg/kg/d divided TID
2	Tachydysrhythmia	Bronchospasm	6 d	6 mo	3 mg/kg/d divided TID
3	Tachydysrhythmia	Bronchospasm	4 mo	11 mo	2 mg/kg/d divided TID
4	Diastolic dysfunction	Bronchospasm	3.5 mo	6.5 mo	2 mg/kg/d divided TID
5	Tachydysrhythmia	Bronchospasm	1 d	5 mo	2 mg/kg/d divided TID
6	Tachydysrhythmia	Bronchospasm	5 mo	10.5 mo	1 mg/kg/d divided TID
7	Tachydysrhythmia	Bronchospasm	5 d	18 mo	1.5 mg/kg/d divided TID
8	Tachydysrhythmia	Bradycardia	8 mo	10 mo	1 mg/kg/d divided TID
9	Tachydysrhythmia	Bradycardia	7 mo	14 mo	3 mg/kg/d divided TID
10	Tachydysrhythmia	Bradycardia	1 mo	1 mo	1 mg/kg/d divided TID
11	Tachydysrhythmia	Hypoglycemia	1 mo	21 mo	2 mg/kg/d divided TID

Abbreviations: AE, adverse effect; TID, 3 times daily; Y, yes; U, unknown.
[a] Doses prescribed for infants in our study cohort were observed to be similar to the doses used for hemangioma treatment.