

Lessons from Botswana

By *Pristine Lee, M.D.*

Pristine Lee, M.D., was one of the 2009 recipients of the American Academy of Dermatology's Residents' International Grant. In this article she describes her experiences living in and caring for patients at treatment centers in Botswana.

My four weeks as a principal dermatology clinician in Botswana were the fulfillment of a lifelong interest in foreign culture and a desire to help make a difference in underserved communities abroad. Since my extended family lives in Singapore and Malaysia, I've always had a keen awareness of the rich differences that exist among cultures. That awareness also led me closer to pursuing international experience, especially when one of my mentors, Bari Cunningham, M.D., went to Guatemala to help a village overwhelmed with xeroderma pigmentosa. Her experience opened my eyes to how great the need is for dermatology services abroad; since dermatology carries such a specific skill set, you can make a significant impact in clinics with limited resources.

The Botswana-UPenn Partnership, in conjunction with the AAD, operates from the Princess Marina Hospital in Gaborone (the capital of Botswana). Carrie Kovarik, M.D., faculty at UPenn, is the leader of the program, and is a completely dedicated and wonderful person to work with.

Dermatology need personified

At the dermatology clinic, patients arrive on the day of their appointment — there are no assigned appointment times — and wait in a long, snaking line to be seen. They wait patiently for their turn, even if it ends up being as much as eight hours later. Their willingness to endure such long waits underscored, for me, the need for dermatology services in the community.



Seventy percent of Botswana is covered by the Kalahari Desert. Within this vast, arid land exists pockets of villages filled with people needing medical care.

Photo courtesy Pristine Lee, M.D.

Education in adversity

The learning experience provided in this program is unique. I observed and treated conditions that I would never see in the US or never see in such severity. One day, we had about 12 middle school students who came into the emergency room with measles as the suspected condition. The following week, there were four hospital admissions for measles, and then four more the week after that. I had never seen measles before. Most children in the US receive measles vaccinations that make outbreaks incredibly rare. There was a serol-

See **Botswana** on p. 3

Horizons



Tiffany Brazeal, M.D.

How I spent my summer vacation...

(and how you could spend yours, volunteering for Camp Discovery) by Tiffany Brazeal, M.D.

Summer camp can seem like a scary place for any young person, but it's particularly difficult for those with skin disease. Those who participate in the AAD's Camp Discovery program travel from all across the United States, and it's often their first foray of autonomy away from the safe haven of home and the assuredness of acceptance. Many travel at the urging of their parents and doctors; others come on their own accord with the goal of having fun and making friends in an environment free of judgment or isolation.

I volunteered last August for AAD's Camp Dermadillo, in Burton, Texas. This is one of three Camp Discovery locations operated by the AAD. As the campers filed in on the first day, some were showing signs of separation anxiety and apprehension while the more seasoned campers renewed old friendships. As we made our way to our cabins and then on to our daily activities, we were quite relieved to see that this wasn't just any old "camp", this was a kid's dreamland. The camp sat on acres of rolling green ranch land.

See **CAMP DISCOVERY** on p. 7

Inside *this* issue

4-5 Boards' Fodder

6 Race for the Case

6 Skin Deep

8 Message from the Chair

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ogy test available in Botswana, but it is not uniformly used and can take more than two weeks to return. A biopsy — to determine if it was any other type of eruption — could have taken up to six weeks to return.

In some clinics in the US, I could have easily done more than 10 biopsies in a half day for all types of conditions. But, in Botswana, some of my greatest learning opportunities came from working with limited resources. I had five reusable kits that limited the number of biopsies I could do in a full day. Besides the instruments, other supplies such as syringes/needles, alcohol pads, suture material and the actual punch biopsy tools were all brought over from the US in limited supply. I was also accustomed to rapid results from laboratory tests or biopsies. In Botswana, test result availability depended on a computer system that was typically non-functional three

“Without an endless supply of biopsies, diagnostic tests and quick results, I had to hone my skills in making assessments from the clinical presentation alone.”

days a week, and “urgent” biopsies required at least one month to return. As I quickly became aware of the limited resources and the strain on the system, I had to make every effort to conserve. Without an endless supply of biopsies, diagnostic tests and quick results, I had to hone my skills in making assessments from the clinical presentation alone.

There were two instances of patients where I could look at them and put together the diagnosis of measles; the “classic” rash, red eyes, runny nose, a cough, and a history that supported a diagnosis. Still, in most cases, other factors made their presentation complicated. Some were HIV positive, had variable immunizations in the past, or had other chronic skin rashes or infections present. Stripped of the massive array of



The dermatology clinic area at Princess Marina Clinic in Botswana. Patients endure long waits on their appointment day, sometimes up to eight hours.

Photo courtesy Ron Bernadin, M.D.



Dr. Lee inside the dermatology clinic in Botswana, consulting with a patient.

Photo courtesy Ron Bernadin, M.D.

testing that is available in the US, I was forced to rely more on what I could perceive. I began to look more closely and notice more subtle changes in the skin color or texture. In addition, there were so many variations in skin tone that even the basic assessment of the color of a lesion became a challenge, but also a learning experience.

While my experience in Botswana was unique — learning a lot along the way by seeing measles and atypical measles in an HIV population — I feel that the opportunity to sharpen my clinical skills is beneficial across borders. I feel more proficient in looking at darker skin types and I also trust my clinical judgment more than ever.

Mornings of joy

One memory that stays with me is how — at some of the clinics and also in the inpatient area — the nurses and staff begin the day by singing to the patients and family present. The families of the patients

are very involved, as well; singing along, sometimes even starting off a song for everyone to join in. There is clapping and swaying along to the melody, completely acapella. It is such a beautiful way to connect everyone — patients, family, and staff. Now that I’m home, I draw on the clinical experience I developed during my time abroad — but I will also never forget the people of Botswana; singing and clapping and waiting to be treated.

Dr. Lee is currently a third-year resident at University of California, San Diego. In July 2010, she will be joining University of California, San Francisco for a fellowship in pediatric dermatology.



Pristine Lee, M.D.

Watch for the summer 2010 issue of Directions in Residency to find out how you can make a difference abroad. 

For additional information on the AAD’s Residents International Grant, visit the AAD Web site at www.aad.org/members/international/scholarships.html

Clinically relevant drug interactions in Dermatology

Sheila M. Valentín Nogueras, M.D.

Interactions affecting drug absorption

Dermatologic agent	Interaction	Mechanism	Effect	Comment
Azole antifungal agents	Antacids and H ₂ blockers	Decreased absorption in presence of high pH	Decreased plasma azole antifungal agent	<i>Fluconazole absorption is not significantly influenced by gastric pH or food.</i>
Macrolide antibiotics	Digoxin	Increased GI absorption of digoxin by altering GI flora	Increased plasma digoxin	
Quinolones	Aluminum/magnesium containing antacids, calcium (milk and dairy products), zinc, iron	Decreased absorption due to formation of poorly absorbed complexes between quinolone and metal ions	Decreased plasma quinolone	<i>Administer one to two hours before, and not within four hours after, the ingested metal ions.</i>
Tetracyclines	Digoxin	Increased GI absorption of digoxin by altering GI flora	Increased plasma digoxin	
	Cholestyramine and colestipol	Decreased absorption	Decreased plasma tetracycline	
	Aluminum/magnesium containing antacids, calcium (milk and dairy products), zinc, iron	Decreased GI absorption due to the formation of poorly absorbed complexes between tetracycline and metal ions	Decreased plasma tetracycline	<i>Administer one to two hours before, and not within four hours after, the ingested metal ions. Doxycycline and minocycline may be administered with food or dairy products without causing a major reduction in absorption, but concurrent use of iron may reduce their absorption.</i>

Interactions affecting drug metabolism

Dermatologic agent	Interacting drug	Mechanism	Effect	Comment
Azathioprine	Allopurinol	Inhibition of the xanthine oxidase pathway and shifting to the HGPRT pathway	Excess formation of active metabolite leading to bone marrow suppression	<i>If used concomitantly, azathioprine dose should be reduced 1/3 to 1/4. Monitoring of 6-thioguanine nucleotide is prudent.</i>
	ACE inhibitor	Unknown	Anemia or leukopenia	<i>Azathioprine-induced impairment of hematopoiesis and ACE inhibitor-induced decrease in erythropoietin may result in additive effects on bone marrow.</i>
Azole antifungal agents	Cyclosporine	Decreased metabolism	Increased plasma cyclosporine	
	Warfarin	Decreased metabolism	Increased plasma warfarin	
Bexarotene	Gemfibrozil	Decreased metabolism	Increased plasma concentrations of bexarotene with reports of massive hypertriglyceridemia and pancreatitis	<i>Thought to be at least partially related to CYP 3A4 inhibition by gemfibrozil. Atorvastatin and simvastatin are acceptable alternatives.</i>
Contraceptives, oral	Barbiturates, carbamazepine, phenytoin, rifampin, griseofulvin, St John's wort	Increased metabolism	Decreased plasma oral contraceptives	<i>Caused by induction of CYP 3A4.</i>
Fluconazole	CYP 2C9 substrates: phenytoin, sulfonyleureas, NSAIDs, warfarin	Decreased metabolism	Increased plasma phenytoin, sulfonyleureas, NSAIDs, warfarin	<i>Fluconazole is a strong inhibitor of CYP2C9.</i>



Sheila M. Valentín Nogueras, M.D. is an assistant professor in the department of dermatology at the University of Puerto Rico.

Clinically relevant drug interactions in Dermatology

Sheila M. Valentin Noguera, M.D.

Interactions affecting drug metabolism, cont'd				
Dermatologic agent	Interacting drug	Mechanism	Effect	Comment
Ganciclovir	Zidovudine	Probably synergistic myelosuppression	Severe hematologic toxicity and pancytopenia	<i>The combination is poorly tolerated in patients with AIDS and serious-CMV disease, with 82% developing severe to life-threatening hematologic toxicity.</i>
Macrolide antibiotics	HMG-CoA reductase inhibitors	Decreased metabolism	Increased plasma HMG-CoA reductase inhibitor with myositis and rhabdomyolysis	<i>Does not occur with azithromycin. (Does not complex with hepatic oxidizing enzymes)</i>
	Quinolones	Probably pharmacodynamic (additive) effect	Life-threatening cardiac arrhythmias and risk of TdP	
	Warfarin	Decreased metabolism	Increased plasma warfarin	<i>Does not occur with azithromycin.</i>
Methotrexate	Trimethoprim, sulfonamides, and dapsone	Synergistic inhibition of the folic acid metabolic pathway	Increased hematologic toxicity	
	Phenytoin, phenothiazines, salicylates, tetracyclines, chloramphenicol, and sulfonamides	Increased methotrexate levels by displacement of plasma proteins	Increased toxicity	
	NSAIDs, salicylates, penicillins	Increased methotrexate levels due to decreased renal perfusion and methotrexate excretion	Increased toxicity	
Quinolones	Antiarrhythmic agents	Synergistic prolongation of the QT interval	Life-threatening cardiac arrhythmias, including TdP	
	Tricyclic antidepressants	Probably pharmacodynamic (additive) effect	Life-threatening cardiac arrhythmias and risk of TdP	
	Warfarin	Unknown	Increased anticoagulant effect of warfarin	
Retinoids, oral	Methotrexate	Probable pharmacodynamic (additive) effect	Increased risk of hepatitis	
	Tetracyclines	Additive or synergistic effect	Increased risk of pseudotumor cerebri	
Terbinafine	CYP 2D6 substrates: TCAs, SSRIs, antipsychotics, opioids, β -blockers, class I antiarrhythmics	Decreased metabolism	Increased plasma levels of TCA, SSRI, antipsychotic, opioid, β -blocker, class I antiarrhythmics	<i>Terbinafine is a strong inhibitor of CYP 2D6.</i>
Tetracyclines	Warfarin	Elimination of vitamin K-producing bacteria in the gut. Displacement of albumin-bound warfarin	Increased plasma warfarin	<i>Doxycycline is the most likely offender.</i>

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Race for the Case *by Andrew Krakowski, M.D.*



A young boy was helping his father make some frozen drinks during a Chargers playoff game in San Diego, while the rest of his family watched the game on a big screen TV in a neighbor's backyard. The next day, the child's mother noticed erythema without blistering in a bizarre streaking pattern. She waited a few days before bringing the child into pediatric dermatology clinic, and by then "the marks started turning brown." The child showed signs of mild tenderness on palpation but was otherwise healthy.

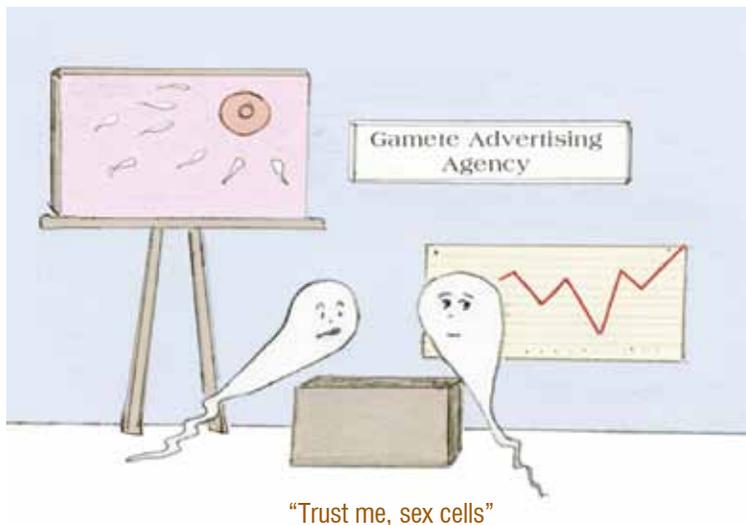
1) What is your unifying diagnosis?
2) What frozen drinks was the boy helping his father make

(ie; what may have caused the condition)?

Submit your response to Dean Monti, editor, at dmonti@aad.org. The first correct response we receive will earn the winner a \$15 Starbucks gift card.

The correct answer to last issue's Race for the Case is: Juvenile Xanthogranuloma (JXG). Congratulations go out to **Manisha Thakuria-Jones, M.D.**, a third-year resident in the department of dermatology at University of Michigan, who was the first person across the finish line. Thank you to all who participated, and we encourage you to keep trying! 

Skin Deep *by Krakowski/Monti*



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CAMP DISCOVERY from p.1

Our days were filled with swimming, canoeing, biking, fishing, archery, basketball, arts and crafts, playing with farm animals (we even held a pet rat!), and planning a late night kitchen raid.

Friendships strengthened and confidence blossomed in only a few short days. Kids with alopecia shed their wigs and those with disfiguring skin diseases abandoned all inhibition for a splash in the pool. Even those most homesick found themselves laughing with their new-found friends. We didn't talk much about their skin disease, instead this was a time for the kids to socialize and feel "normal". I felt like a kid again myself, and found the time to escape the responsibilities of adulthood and immerse myself in the sheer joy of simple summertime pleasures. I found myself spending my "downtime" hanging out with the kids and deriving much pleasure from their social successes. Many of the camp counselors had skin disease and some even were campers at the very same camp in previ-



Girls just want to have fun. Camp Dermadillo was a rewarding experience for patients like these, as well as for dermatologists like Dr. Brazeal, second from right.

ous years. Perhaps best of all, children with uncommon and disfiguring skin conditions can, often for the first time in their lives, be around peers that look the way they do. Nobody feels like an outsider.

We ended the fun-filled week at Camp Dermadillo with a talent show and fireworks. The show was an extravaganza of talent ranging from a re-enactment of "America's Got Talent," to a break-dancing boy band, capped off with a solo of

"Eye of the Tiger". It was amazing to see the kids so full of excitement and confidence, uninhibited by their physical appearance or disabilities. On the final day of camp, tears were shed and promises were made to return to this special place again in 2010. We all left camp with a spring in our step ready to tackle the ups and downs of life with a renewed or newfound confidence and appreciation.

Tiffany Brazeal, M.D., is a dermatology resident at the Mayo Clinic in Scottsdale, Ariz. AAD Camp Discovery wouldn't be possible without volunteer medical staff to ensure the health and safety of campers. Contact Janine Mueller, jmueller@aad.org, in the Academy's Communications office to sign up. To learn more about Camp Discovery, go to www.campdiscovery.org.

Help make memories to last a lifetime!

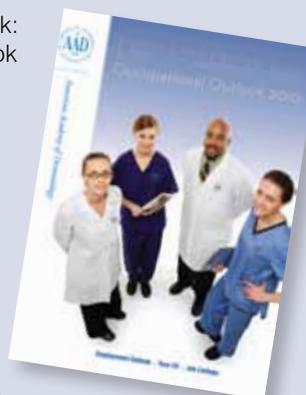
Kids gain so much from AAD Camp Discovery. They make new friends, try new things and learn that they are not alone. They leave Camp armed with a "boatload" of memories and a new outlook on life. You can help make these memories possible.

Make a donation to the AAD Camp Discovery Endowment

Your tax-deductible donation ensures that more kids will benefit from these life-changing summer camps. You can make your donation online at www.campdiscovery.org or contact the AAD Development office at development@aad.org. 

Special supplement in this issue

The Derm CareerLink: Occupational Outlook 2010, included with this newsletter, features available positions and career advice for dermatologists. Members may also download this complimentary publication from the AAD Web site, www.aad.org/members/index.html.



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message from the chair



Jennifer Lucas, M.D.

Greetings, residents!

It is definitely a bittersweet moment as I write my last message to you as chair of the RFC. Over the past year, the committee has responded to your concerns, bringing you increased access to the dermpath self-assessment course, billing and coding symposium, as well as giving you a meaningful resident transitions symposium with career information and updates on the certification exam. Many projects that are currently underway for 2010:

- **New AAD resident Web page:** The revamped page will include more information and tools to aid in transitioning to your future career or fellowship.
- **Educational materials:** We are working to provide you with additional materials to study for your certification exam with an online tool kit.
- **Leadership:** As the Academy works to formulate a wide-spread leadership program through the Leadership Institute we are assuring that residents and fellows are included and will be involved in the development of resident/fellow centered activities and programs.
- **Indoor Tanning is Out:** We know

the importance of educating the public on this issue and the RFC is working to expand this valuable program.

- **Mentorship:** Not only are we working to identify mentors to help with career choice, we are also piloting a project with the RFC to create a more formalized mentorship program to foster future leaders in the field.
- **Social networking:** Staying “hip with the times” the RFC is working to identify a good source to network and share information.

As you can see your committee has been very busy working to identify and address your needs. I would like to personally thank all of this year’s members for their enthusiasm and hard work. It has been an honor to serve as chair of such a great group of colleagues. Included below is a list of the workgroups and their chairs. Should you have any questions on our projects feel free to contact the RFC at residents@aad.org. We would love to hear your input!

Finally, I wish the best to Angela Kyei, M.D., incoming RFC chair. I feel confident the committee will continue to flourish under her leadership! 

Resident workgroups

Leadership Curriculum Development

Adam Friedman, M.D. (chair)
Jennifer Lucas, M.D. (co-chair)
Emily Chu, M.D.
Seemal Desai, M.D.
Rahul Shukla, M.D.
Paul Lizzul, M.D.

Mentor Relationship for RFC Members

Angela Kyei, M.D. (chair)
Paul Lizzul, M.D. (co-chair)
Emily Chu, M.D.
Ingrid Roseborough, M.D.
Sara Brooks, M.D.

Social Networking

Andrew Krakowski, M.D.
Joshua Zeichner, M.D.

Resident Web page

Jeremy Brauer, M.D. (chair)
Jennifer Lucas, M.D. (co-chair)
Ginger Mentz, M.D.
Matthew Mahlberg, M.D.
Robert Anolik, M.D.

Indoor Tanning is Out - Public Education Program

Ingrid Roseborough, M.D. (chair)
Eric Hester, M.D.
Michael Jacobson, M.D.
Christian Baum, M.D.
Ahou Meydani, M.D.

Educational Materials Workgroup

Angela Kyei, M.D. (co-chair)
Jennifer Lucas, M.D. (co-chair)
Adam Friedman, M.D.
Christian Baum, M.D.

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