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89. Antibiotic Use in the Management of Snake Envenomation

Ruha AM1, Kang AM1, Onisko NS2, Greene S3, Vohra R4, Seifert SA5, Smith E2, Padilla-Jones A1, On behalf of the TICSS Group* 1Banner Good Samaritan Medical Center, Phoenix, AZ, USA; 2University of Texas Southwestern Medical Center, Dallas, TX, USA; 3Baylor College of Medicine, Houston, TX, USA; 4UCSF Fresno Medical Education Program, Fresno, CA, USA; 5University of New Mexico School of Medicine, Albuquerque, NM, USA

Background: Snake envenomation produces inflammatory effects that may mimic and be difficult to distinguish from infection, including erythema, warmth, and inflammation of lymphatic channels. The incidence of infection is unknown but culture-proven infections are rare. There is no evidence that prophylactic antibiotics change the incidence of infection, and they are not recommended in the routine management of North American snake envenomation.

Research Question: Are health care providers administering prophylactic antibiotics to patients with snake envenomation?

Methods: Data reported to the ToxIC North American Snakebite Registry (NASBR) between March 1 2013 and October 31 2014 were reviewed. All cases were included. Data collected included patient demographics; physical findings; antibiotic use, doses, and purpose. Results are reported using descriptive statistics.

Results: Fourteen sites representing ten states across the US contributed 276 cases to the NASBR. Two hundred fifty-nine (94 %) had swelling, and 108 (40 %) had erythema. Twenty-eight (10 %) received at least one dose of antibiotics. Sixteen subjects were treated with antibiotics in the ED. Twenty-two received antibiotics while admitted as prophylaxis in nine and empiric treatment of erythema or suspected cellulitis in 11. Two patients received antibiotics for a documented infection; one was pre-existing and unrelated to the bite. The other patient developed extensive necrosis with digital nerve injury requiring multiple surgeries. Erythema was present in 15 (54 %) patients who received antibiotics and 94 (38 %) patients who did not receive antibiotics.

Discussion: Antibiotics are not routinely recommended in the treatment of North American snake envenomation, yet use in this cohort reported to the NASBR occurred in 10 %. Other reports have documented similar rates of prophylactic antibiotic use in North American snakebite, without demonstrated benefit. In this study, only one infection in a complicated case was confirmed. Unnecessary antibiotic use presents risks of adverse medication reactions, medication errors, drug resistance, and pseudomembranous colitis. Limitations of this study include no confirmation of infection or its absence, and follow up for late infection was not routinely performed.

Conclusion: Routine administration of antibiotics to snakebite patients continues despite published evidence and recommendations against the practice. Medical education regarding management of snakebites should include the appropriate use of antibiotics.

*The ToxIC Snakebite Study (TICSS) group: Anna Arroyo-Plascencia, Vikhyat S. Bebarta, Michael C. Beuhler, Adam Bosak, Jeffrey Brent, Daniel Brooks, E. Martin Caravati, James D. Cao, Nathan Charlton, Steven Curry, Michael Darracq, William Dribben, Kimberlie Graeme, Spencer Greene, Kennon Heard, C. William Heise, Janetta Iwanicki, Aaron Min Kang, William P. Kerns II, Thomas Kibby, Joshua King, Ronald Kirschner, Kurt Kleinschmidt, Michael Levine, Rachel Levitan, Philip Moore, Michael Mullins, Ayrn O'Connor, Nancy Onisko, Angela Padilla-Jones, Tammy Phan, Frank LoVecchio, Anne-Michelle Ruha, Steven A. Seifert, Daniel J Sessions, Aaron Skolnik, Eric Smith, Meghan B. Spyres, An Tran, S. Eliza Halcomb, Evan S. Schwarz, Shawn M. Varney, Rais Vohra, Brandon Warrick, G. Sam Wang, Paul Wax, Brian J. Wolk