Lidocaine Patches: Worth Trying?

Lidocaine patches are often used in treating postherpetic neuralgia in humans, who do not report numbness or loss of sensitivity, but rather local analgesia. This article discusses a study designed to investigate transdermal absorption of lidocaine after application of a lidocaine patch on the abdominal ventral midline and to determine if the concentrations were high enough to cause adverse effects in dogs. The lidocaine patches contained 5% lidocaine (LidoDerm, Endo Pharmaceuticals, Inc., Chadds Ford, PA). Two patches were used per dog and placed on the ventral abdominal midline of seven 18- to 23-kg dogs for 72 hours. Plasma lidocaine levels were determined 12 hours after patch administration and reached steady-state concentrations between 24 and 48 hours. The mean maximal plasma concentrations of lidocaine were 72.8 ± 65.8 ng/ml at 24 hours. The lidocaine levels decreased dramatically at 60 hours after application. Lidocaine was still detected 6 hours after patch removal. The lidocaine patches were well tolerated by the dogs, and no clinical side effects were seen. Two of the dogs did have erythema at the application site.

COMMENTARY: There was minimal systemic absorption of lidocaine from transdermal application of these patches. Use of lidocaine patches in dogs appears to be relatively safe and may be useful for local analgesia. It should be noted that a previous study showed that use of a depilatory agent led to a more rapid and increased absorption of lidocaine (Pharmacokinetics of a lidocaine patch 5% in dogs. Weiland L, Croubels S, Baert K, et al. J Vet Med Series A 53:34-39, 2006).—Patricia Thomblison, DVM, MS