



Drug Monitor

ONLINE EDITION

Heated Anesthesia Helps Reduce Pain

Heating the topical anesthesia patch helped lower pain intensity scores by 37% in a pilot study of 88 patients by researchers from the University of Utah, the University of Hawaii, and the University of Pennsylvania. That finding spurred a larger study of 250 healthy adults, which found a similar reduction of 31%. The anesthetic patch, which has an air-activated heating element, is designed to warm the skin and make it easier to deliver local anesthetics.

In the pilot study, researchers randomly assigned participants to 8 groups that varied by heated vs unheated patch, time of application (20 min vs 30 min), and size of catheter (16 G vs 18 G). In the larger study they aimed to test the impact of controlled heat on local dermal analgesia

prior to vascular access. Using the pilot study findings, they randomly assigned patients to receive either the heated or unheated patch, 20 minutes before vascular access, using a 16 G catheter in the antecubital space of the arm. The heated lidocaine/tetracaine patch (ZARS Pharma, Salt Lake City, Utah) is multilayered, with an inner heating element activated when air hits it. The heat generated by the element increases the local temperature of the skin to about 39° C for approximately 2 hours. It also increases the flux of tetracaine and lidocaine, leading to more rapid and effective anesthesia. Vascular access was attained in all patients on the first attempt.

The reported visual analog scale pain intensity scores were 14.2 mm for the heated patch, vs 20.5 mm for the unheated patch. More patients who tested the heated patch reported adequate anesthesia compared with

those who tested the unheated patch (71% vs 53%). More patients who received the heated patch also said they would use the product again than those who received the unheated patch (71% vs 55%).

No severe dermal reactions to the patch, either heated or unheated were observed. Five patients who tested the heated patch and 2 who tested the unheated patch had an adverse reaction. Six events were mild skin reactions that resolved within 1 day. One patient had a slight bruise unrelated to the study medication.

According to the researchers, although gaining pain-free vascular access was the focus of the study, other potential applications may be explored for heated patches as a possible option where topical or injectable local anesthetics are used. ●

Source: *J Pain Symptom Manage*. 2010;40(4):510-519.
doi:10.1016/j.jpainsymman.2010.01.022