Study Affirms Safety of Local Anesthesia for Mohs Surgery

BY SUSAN LONDON Contributing Writer

VANCOUVER, B.C. — A new study finds that the local anesthesia used for Mohs surgery appears to be safe, with serum levels of lidocaine remaining well below the threshold for toxicity and an absence of any drug-related adverse events.

Although Mohs procedures are routinely performed using lidocaine anesthesia without any complications, few studies have looked at lidocaine levels specifically in this context, said study author Dr. Murad Alam, chief of cutaneous and aesthetic surgery at Northwestern University, Chicago.

Research on tumescent anesthesia suggests that a greater vascular supply above the clavicle promotes faster absorption of lidocaine (Plast Reconstr Surg. 2005;115:1744-51). The concentration of lidocaine in the anesthesia used for Mohs surgery is 5-10 times that of tumescent anesthesia.

The prospective cohort study, reported at the annual meeting of the American College of Mohs Surgery, took place among 2,517 patients undergoing Mohs surgery between 2003 and 2007. The investigators obtained a detailed bleeding history from all patients and performed a hematologic workup in those who had a positive history or who had unexplained excessive bleeding during their Mohs surgery.

A total of 18 patients (0.7%) had a previously undiagnosed bleeding disorder. Eleven of them had a positive bleeding history, while seven had a negative history but bled excessively during surgery. Dr. Vinciullo noted that most of the affected patients had normal routine coagulation profiles on hematologic testing and that one patient had even undergone surgery uneventfully 2 years earlier.

The hematologic workup further revealed that 6 of the 18 patients had von Willebrand disease (alone or with other abnormalities), three had acquired platelet abnormalities with myelodysplasia and other abnormalities, two had suspected increased capillary fragility, one had a history like platelet sequestration defect, and one had suspected impaired vasoconstriction with hereditary hemorrhagic telangiectasia.

Another two patients—one with refractory immune thrombocytopenia and antiplatelet antibodies, and another with disseminated intravascular coagulation, thrombocytopenia, and cancer-associated fibrinogen deficiency—were treated with radiation therapy instead because their disorders were judged to be contraindications to surgery.

Finally, three of the patients had no definable hematologic abnormality. “This does not mean that they do not have a bleeding abnormality,” Dr. Alam said. The investigations available to us.” Among the patients who were surgical candidates, those with von Willebrand disease were treated with prophylactic desmopressin infusion, oral tranexamic acid, or a combination thereof. Those with platelet function abnormalities were all treated with prophylactic platelet infusions; one also received desmopressin, and another also received additional platelet cross-matching, recombinant factor VIIa, and tranexamic acid. The remaining patients were given tranexamic acid or were not treated.

Dr. Vinciullo reported no conflicts of interest in association with the study.

Bleeding Disorders Are Not a Barrier to Mohs

BY SUSAN LONDON Contributing Writer

VANCOUVER, B.C. — Some patients undergoing Mohs microscopic surgery have undiagnosed bleeding disorders, but careful history taking, vigilance during surgery, and tailored management can prevent complications in most cases, according to results of a study of more than 2,500 patients.

Dr. Carl Vinciullo and his colleague, Dr. Ross Baker, both of Royal Perth Hospital in Australia, prospectively assessed the prevalence of bleeding disorders among 2,517 patients undergoing Mohs surgery between 2003 and 2007. The investigators obtained a detailed bleeding history from all patients and performed a hematologic workup in those who had a positive history or who had unexplained excessive bleeding during their Mohs surgery.

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Dr. Vinciullo reported no conflicts of interest in association with the study.

Serum lidocaine levels were measured by gas chromatography, and both patients and physicians assessed the occurrence of adverse events.

Dr. Alam explained that mild symptoms of lidocaine toxicity occur when the serum level of the drug reaches 3 mcg/mL; moderate symptoms when the level exceeds 5 mcg/mL; and severe and potentially life-threatening symptoms when the level exceeds 10 mcg/mL.

Study results indicated that across all time points, lidocaine levels were detectable (greater than 0.1 mcg/mL) in just five (25%) of the patients.

“Even in the worst-case scenario—the sixth and final time point, where you would expect the serum lidocaine level to be the highest because of the cumulative dosage to that point—only 5 of the 20 patients had a detectable serum lidocaine level,” Dr. Alam remarked.

Furthermore, the median level for the cohort was undetectable at all time points.

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Of all patients, the highest peak serum lidocaine level observed was 0.4 mcg/mL, noted during the last three time points. “That is still one-tenth of the amount for even mild symptoms to occur,” he pointed out.