35. THE EFFECT OF LATERALITY ON SQUAMOUS CELL CARCINOMA SIZE AND MOHS MICROGRAPHIC SURGICAL CHARACTERISTICS

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BACKGROUND: Mohs Micrographic Surgery (MMS) is a minimally invasive technique designed to treat skin cancers in cosmetically sensitive areas. MMS involves the sequential removal of horizontal layers of the tumor, which are processed in real-time to determine if the margins are cancer-free. As it relates to the development of tumors, certain activities and lifestyles may render patients susceptible to uneven distributions of sun exposure favoring specific literalities of skin lesions. **METHODS:** To determine if there were any differences in laterality in patients with squamous cell carcinomas (SCCs) undergoing MMS, a retrospective chart review was conducted. This analysis included 255 patients with SCCs confirmed by biopsy who had undergone MMS at a single academic center. We evaluated the anatomical location of the tumor, preoperative tumor size, postoperative wound size, and number of layers removed during surgery. We then computed the average and standard deviation values for left- versus right-sided SCC tumors for the above parameters. Subsequently, we computed a two-tailed T-test to determine if there was a statistically significant difference. **RESULTS:** Of the 255 patients analyzed, 121 had right-sided SCCs and 134 had left-sided SCCs. The means for the preoperative tumor size for the right versus left SCC tumors were 1.73 cm^3 versus 1.79 cm^3, respectively (standard deviation of 1.56 versus 2.83 cm^3, respectively). The means for the layers removed for the right versus left SCC tumors were 1.69 versus 1.61 layers, respectively (standard deviation of 0.72 versus 0.69, respectively). The means for the postoperative wound size for the right versus left SCC tumors were 3.44 cm^3 versus 3.63 cm^3, respectively (standard deviation of 2.92 versus 4.98 cm^3, respectively). The p-values were all above 0.1 for left versus right SCC comparing these three metrics. **CONCLUSION:** Despite the slight leftward preponderance of the SCC cases, there was no statistical difference in preoperative tumor size, postoperative wound size, or number of layers removed during surgery. Therefore, differences in occupational or activity-based lateral sun exposure did not appear to have a significant effect on SCC tumor size laterality in this patient cohort. The increase in left-sided cases could be due to leftward sun exposure or could be due to normal statistical variation. Further research may analyze a larger patient cohort to better quantify the prevalence of left-sided tumors.

Key Words: Mohs micrographic surgery, Squamous cell carcinoma, Lifestyle.