

Abstract #2607

GORLIN SYNDROME AND IMMUNOMODULATOR TREATMENT

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Gorlin Syndrome, also known as Nevoid Basal Cell Carcinoma Syndrome (NBCCS), is a rare genetic disorder characterized by multiple basal cell carcinomas (BCC) that often develop aggressively early in life. Although serial excisions have traditionally been used to decrease tumor burden, recent advancements in our understanding of Sonic Hedgehog (SHH) pathways and their mutations in NBCCS have shed light on treatments using immunomodulators. Currently, there is no evidence-based approach to the management of multiple lesions in patients with NBCCS. The purpose of this study was to explore the effects of SHH pathway inhibitors and their ability to reduce BCC surgeries, thereby lessening the severe physical and psychological toll that multiple resections and tumor burden have on patients.

A retrospective review of 22 patients with NBCCS was performed at one institution over 20 years (1999-2019). Eligibility criteria included: age greater than 18 years, diagnostic criteria of NBCCS met, treatment with a SHH pathway inhibitor, and at least four years of follow up from initial presentation. Each patient acted as their own control to count new BCC developed per year and BCC surgeries conducted before and after treatment with a SHH pathway inhibitor. The percent reduction in new BCC and additional surgeries was determined.

Of the 51 patients evaluated, 22 met study criteria, mean patient age was 61.1 years, and 59.1% (n=13) were male. Eighteen patients were treated with vismodegib (81.8%), 2 patients were treated with sonidegib (9.1%), and 2 patients were treated with SUBA-itraconazole (9.1%). Prior to therapy, patients developed an average of 7.9 new BCC per year, as compared to an average of 1.9 new BCC developed per year during therapy (76.3% reduction, $p=0.051$). Patients required an average of 2.3 surgeries per year before therapy and 0.6 surgeries per year with therapy (73.9% reduction, $p=0.001$). The majority of patients (72.7%) experienced at least one side effect from immunologic therapy (dysgeusia, muscle cramps, alopecia), leading to discontinuation of treatment in three patients (13.6%).

A statistically significant reduction in the mean number of surgeries for BCC resulted with SHH pathway inhibitor use. The decrease in new BCC per year while on therapy was trending toward significance in the relatively small sample size ($p=0.051$). Although the majority of patients suffered at least one side effect (72.7%), the study results favor the use of immunologic therapy because of both a decrease in the number of new BCC and BCC surgeries.