

Pharmacology and Therapeutics

Effects of Solcoderm

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ABSTRACT: *The effects of treatment and depths of penetration of a 5-fluorouracil and salicylic acid preparation (Solcoderm) were studied in 24 patients treated for basal cell carcinoma with this compound. Two thirds of the patients in our study showed islands of residual tumor in the dermis following treatment, whereas total disappearance of the tumor was observed in one third. The depth of the fibrotic changes induced by the drug varied from 0.34 to 0.40 cm for the morphea type of basal cell carcinoma and from 0.52 to 0.88 cm for the conventional types. It is recommended that treatment with this compound be reserved only for superficial basal cell carcinomas and that it be avoided altogether in basal cell carcinoma of the morphea type.*

Solcoderm is a relatively new compound of 5-fluorouracil and salicylic acid that has recently been introduced for the treatment of cutaneous neoplasia.¹⁻⁵ Owing to its ease of administration, low cost, and excellent cosmetic results, extensive clinical trials with this drug are currently under way. The optimal conditions for the successful application of this drug on diseased skin have not been adequately investigated. We present a histopathologic study in 24 patients treated with this preparation for basal cell carcinoma (BCC) of the skin and attempt to evaluate the degree of penetration and the effectiveness of the drug for the different histologic variants of this skin tumor.

Materials and Methods

A group of 24 patients with a clinical diagnosis of BCC was treated with Solcoderm. Ten of the patients in the study were

men, 14 were women. The ages of the patients ranged from 45 to 68 years. The lesions occurred in the face (12 patients), arms (eight patients), and neck (four patients). The size of the tumors ranged from 0.3 to 1.6 cm in surface diameter. Following a superficial shave biopsy, treatment was started with Solcoderm by dipping a sharp, thin, wooden applicator into the solution and then lightly piercing the affected skin with it. This procedure performed repeatedly over a period of several days to a week until the lesion cleared and was replaced by a smooth area of scarring. Subsequently, a second biopsy (6-mm punch) was taken from the area of the residual atrophic scar. Of the 24 cases studied, the initial diagnosis in six of the patients was that of BCC of the morphea type, the remainder of the patients exhibited BCCs of the conventional types, including solid, cystic, and mucinous.

Results

The effects of Solcoderm on treated skins were similar to those previously described in the literature.⁶ Sixteen of the patients in our study showed the presence of residual tumor underlying the scar-like area of fibrosis induced by the drug. In eight of the patients, total disappearance of the tumor was observed on the second biopsy. The measurable depth of the effect of Solcoderm on the treated skins ranged from 0.32 to 0.88 cm. Table 1 shows the comparative results of treatment for the conventional and the morphea types of BCC. The morphea variant was the most resistant to the effects of the drug, with residual tumor being present in all such cases. The conventional types of BCC showed deeper penetration of the drug with total disappearance of the lesions in eight out of the 18 cases (42%). In these eight patients, the depth of the tumor was 0.5 cm in diameter or less. Three of the cases with the morphea type of BCC measured 0.62, 0.76, and 0.84 cm in depth, respectively; the other three were below 0.5 cm deep.

Discussion

Solcoderm is a relatively new compound that acts by a mechanism of rapid fixation of tissue with preservation of the fine structure of the cells, a process

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TABLE 1. Comparative Results of Treatment with Solcoderm of Basal Cell Carcinoma

Histologic Type of Tumor	No. Cases	Residual Tumor	Disappearance of the Lesions	Depth of the Tumor	Depth of Penetration
Morphea type Min. BCC Max.	6	6	—	0.40 mm 0.94 mm	0.32 mm 0.48 mm
Conventional Min. Type BCC Max.	18	10	8	0.38 mm 1.25 mm	0.52 mm 0.88 mm

that has been likened to tissue mummification.^{6,7} In order for adequate clinical trials to be instituted, a clear understanding of the effectiveness and optimal conditions for the use of this drug are needed, particularly in light of the fact that its depth of penetration in treated tissues has not yet been adequately evaluated.⁸ Our study disclosed a considerable variation in the depth of penetration of this preparation in skins affected with BCCs. This variation appeared to be dependent mainly upon two factors: the size of the tumor and its histologic type. The tendency of the drug to produce scarring of the area of the skin being treated may lead the clinician to conclude that the treatment has been successful and that effective removal of the tumor has taken place. Our study disclosed the presence of residual tumor located in the depth of the treated tissues in 66% of the cases. In all instances, those showing residual tumor corresponded to the morphea type (regardless of the depth of the tumor), or to those in which the depth of the tumor as measured by deep punch biopsies after treatment was greater than 0.5 cm. Cesarini has proposed that dermal lipids and collagen may act as a barrier against the penetration of Solcoderm applied to the skin.⁷ This observation may explain the poor results obtained with BCCs of the morphea type in which the desmoplasia of the stroma induced by the tumor may act as a natural barrier for the spread of the solution. The results of our experience indicate that treatment with this preparation is optimal in BCCs of conventional histologic types devoid of significant desmoplastic changes in which the tumor depth is not

greater than 0.5 cm, and that the poorest results are those obtained with BCCs of the morphea type.

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