Intralesional 3% Sodium Tetradecyl Sulfate for Treatment of Cutaneous Kaposi’s Sarcoma

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Kaposi’s sarcoma is an angioproliferative disease thought to have originated from endothelial cell lineage, and it is classically described as a multipigmented sarcoma appearing on the lower extremities of elderly men. Radiation therapy is commonly used, and other treatment modalities include topical immune response modifiers, systemic chemotherapy, and surgical excision. Recently, the use of pegylated liposomal doxorubicin has shown potential for preventing the appearance of Kaposi’s sarcoma with less complication. However, these treatments can induce severe complications, impairing patients’ immune systems. The application of imiquimod 5% cream also revealed good treatment response, but the rate of overall side effects was more than 50%.3

Because most affected patients are elderly or immunosuppressed, a well-tolerable therapy should be preferred. Sodium Tetradecyl Sulfate (STS) causes endothelial surface damage, which in turn induces an inflammatory reaction that leads to sclerotization of vessels. It also causes less complication than other systemic treatments, and is lower in cost and easier to handle.

A 96-year-old woman presented with hard, violaceous indurated plaques and protruded erosive papules on right dorsum of foot and ankle (Fig. 1A) which was diagnosed as Kaposi’s sarcoma by biopsy. Human papilloma virus 8 was detected by PCR, and her laboratory tests revealed negative in HIV antibody. Due to her old age, local treatment was started instead of chemotherapy or aggressive operation. Intralesional injection of 3% STS (0.2 mg/mL) was performed on nodules 7 mm or less in size and on plaque lesions. Total volume of 0.024 mg per 1 cm² was injected. The idea of using 3% STS was based on the histological similarities of Kaposi’s sarcoma with other vascular diseases. The 3% STS-injected lesions showed immediate changes in color from purple to black, so we continued using only the 3% STS for all of the nodular lesions every month. Using the solution on plaque lesions also showed good response, although there were some pigmented patches left. After 6 treatment sessions, the lesions showed definite shrinkage without any complications (Fig. 1B).

STS at low concentration is effective in stripping endothelium and commonly used in the treatment of varicose and spider veins of the legs, for it is also able to induce a hypercoagulable state. There are some case reports about intralesional treatment with vincristine, while only a few physicians tried 3% STS as a treatment modality on Kaposi’s sarcoma, in which it was mostly intraoral. According to the literature, vincristine, a cytotoxic agent, showed better complete remission rate than sclerosing agents, but also showed higher rate of no reaction to mild re-
Moreover, STS is a palliative drug, which means that the medical efficacy is lower than anticancer medicine. Although intralesional injection of 3% STS is a palliative management, our case indicates that the sclerosing agent is an effective alternative drug for the treatment of Kaposi’s sarcoma lesions.

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