Intra-lesional NSAIDs injection. Another diversion of treatment in Desmoid tumor.

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OBJECTIVE

Surgery with wide margin resection has long been a mainstay treatment of Desmoid tumors, but this modality can result in high rate of morbidities, disfigurement and recurrence thus many conservative modalities are developed. Systemic NSAIDs are one of the conservative options. Desmoid tumors are shown to overexpress cyclooxygenase-2 (COX-2) and beta-catenin play roles in their pathogenesis. Interfering COX-2 and beta-catenin with systemic NSAIDs can results in a positive response of disease stabilization and improvement. To our knowledge, NSAIDs have never been used locally. We performed intra-lesional NSAIDs injection to help improve our patient's condition and, hopefully, to be able to develop another diversion of treatment for Desmoid tumors.

METHOD

A 38 years old female with SLE presented with a painful mass in her left anterior forearm around one and a half year before her treatment. It also caused paresthesia of her left hand. The diagnosis of Desmoid tumor was made from MRI imaging and pathological finding of the biopsy(1). Since some reports (2, 3, 4) suggested a positive response of Desmoid tumors to oral Cox-2 inhibitors and the patient was already receiving a fair amount of oral drugs and the MRI study showed that the mass located near major nerves and vascular trunk, we decided to attempt intra-lesional drug injection. Appropriate informed consent was obtained and the protocol was approved by the institutional review board of our institution. We injected (May 2012) 2 ml of Parecoxib solution (40 mg) into the tumor on the patient's forearm under ultrasound guidance and a second dose followed 2 months later (July 2012). A third dose was injected in October 2012. The patient received 3 more intra-lesional injections of the same doses of the drug, with 2 months between the injections (May 2013, July 2013, and September 2013). MRI study of the mass was done before the treatment then after three and six doses of injection. Improvements of the patient's symptoms were self-reported along follow up.

RESULT

The tumor size from MRI study before the treatment was 2.1 x 2.6 x 4.6 cm. After the first injection, on a follow-up visit (August 2012) the patient reported that the pain significantly subsided and physical exam suggested some reduction in tumor size. MRI study after three doses of injection showed no significant changes in either size or local invasion. On further follow-up visits (November 2012, February 2013, May 2013) the patient reported that both her pain and paraesthesias disappeared completely and the tumor seemed not to increase in size. On follow-up visits after the fifth dose, the patient remained symptoms-free and the tumor was noted to decrease in size. A third MRI (February 2014), after six doses of injections, confirmed a slight reduction in tumor dimensions (2.0x2.3x4.1 cm) and a reduction in tumor volume from 13.81 ml to 8.67 ml (37.22%). Lastly (May 2014) she has been contacted and she has been symptoms-free and her impression is that the tumor has remained of the same size.

CONCLUSION

The result of this study demonstrates a positive outcome of intra-lesional NSAIDS injection. COX-2 inhibitor injections showed disease stabilization and improvement which were about 17 and 29 month from the first awareness of the disease respectively. However, as this is the first study to inject COX-2 inhibitor directly into the tumor, further study of this modality is still required.

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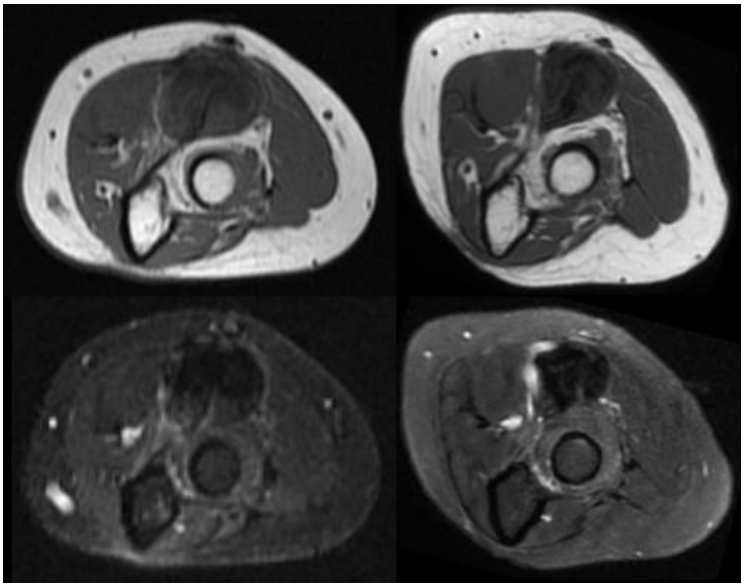
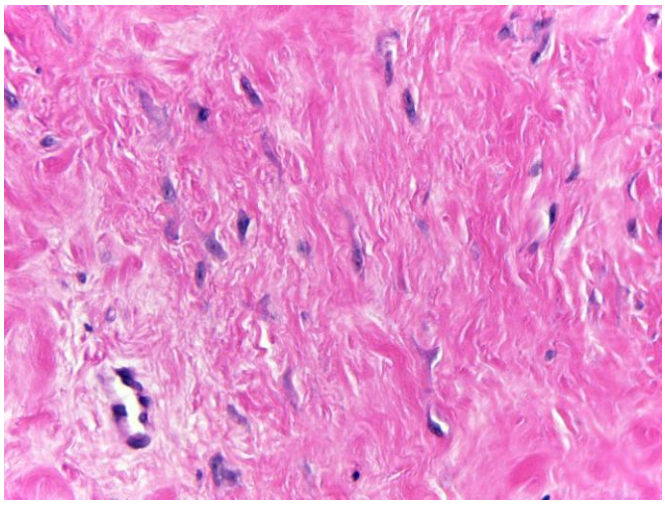


Axial view of the tumor in T1 and T2 phase from MRI study prior to and after 6 doses of treatment showing a decrease of tumor dimensions from A 2.1 x 2.6 x 4.6 cm. to 2.0x2.3x4.1 cm and a reduction in tumor volume from 13.81 ml to 8.67 ml (37.22%).



High magnification of the tumor reveals spindle cells with pale nuclei within abundant pale pink collagenous background (H&E x400)