Aim: Desmoid tumors (Fibromatosis) are slow growing, locally invasive tumors with a propensity to recur despite wide excision. Data on the use of systemic therapy are sparse. Metronomic Therapy (MT) is a multi-targeted therapy with anti-angiogenic, immunomodulatory and tumor dormancy effects. This retrospective audit aims to study the efficacy, safety and need for further surgical intervention in patients of desmoid tumors treated with MT.

Methods: Patients who received MT for fibromatosis between January 2002 and December 2012 were included in the study. MT protocol consisted of Methotrexate 30 mg/m² i.v weekly and Vinblastine 6 mg/m² i.v. weekly for 1 year along with Tamoxifen 20 mg/m² PO BD for 2 years. Response was evaluated using Magnetic Resonance Imaging or Computed Tomography scans every 6 months using the Response Evaluation Criteria in Solid Tumors version 1.1. Toxicities were recorded using the National Cancer Institute Common Toxicity Criteria version 3.0.

Results: 42 patients received MT for ≥6 months, median age was 30 years (range 2 - 58 years) with M:F ratio of 1:1.33. 27 (64.3%) patients had tumors arising in extremities, 8 trunk, 5 intra-abdominal and 2 in head & neck region. 26 patients had recurrent fibromatosis. The median follow up was 29 months. The mean duration for which patients received Methotrexate, Vinblastine and Tamoxifen were 9.85 months, 9.4 months and 16.92 months respectively. 4 (9.5%) cases had grade 3/4 neutropenia. Non-hematological toxicity was documented in 24 patients. Grade 3/4 toxicity consisted of nausea, peripheral neuropathy, and transaminitis in 1 each and vomiting in 2 patients. 4 patients discontinued MT due to toxicity. Response was evaluable in 38 patients- 21% had Partial Response and 79% had Stable Disease as the best response. 15 patients (35.7%) required second line therapy due to disease progression. Only 6 patients (14.28%) eventually required surgery for disease control. The median progression free survival (PFS) was 74 months (95%CI 42.45 - 105.54). The 3 year-PFS for patients with primary disease was 68.6±13.8% and for those with recurrent tumors was 87.4±6.8% (p=0.58).

Conclusions: MT has reasonable efficacy and is well tolerated. The upfront use of MT in advanced desmoid tumors, with surgery being reserved for non-responders or those with progression can be a reasonable approach.

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