Feasibility as novel treatment of Zaltoprofen in pigmented villonodular synovitis (PVNS): A pilot study.

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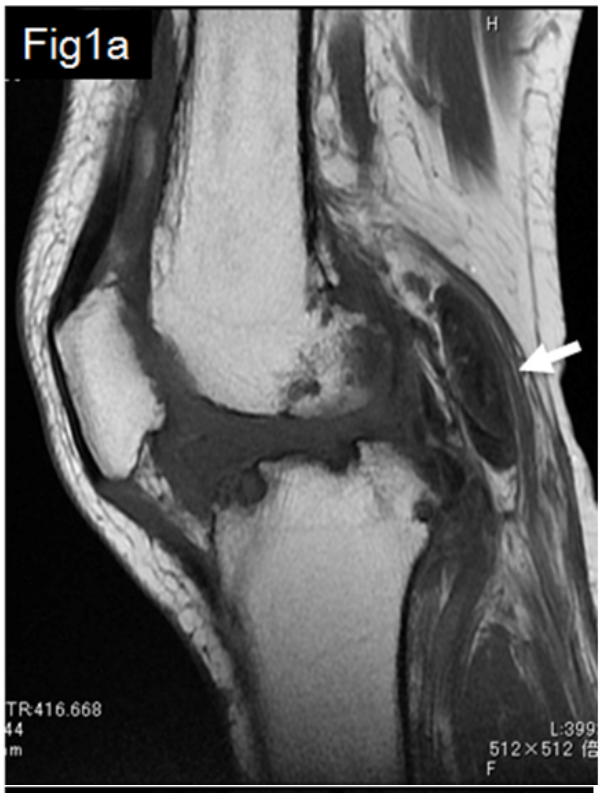
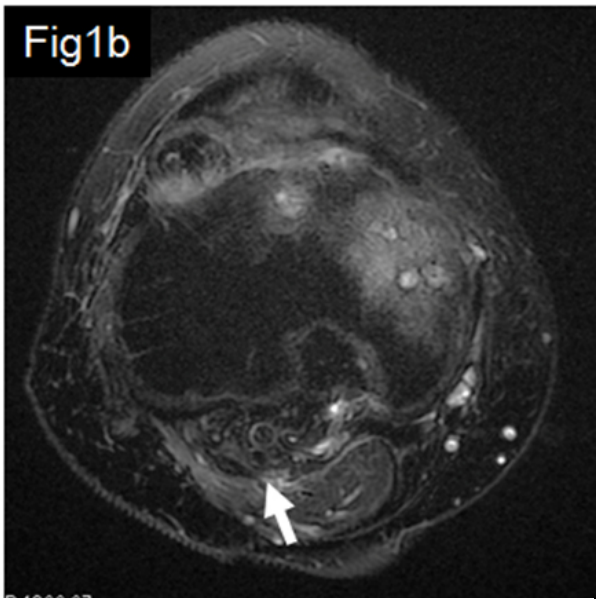
Background
Pigmented villonodular synovitis (PVNS) is locally aggressive benign synovial tumor which involves the inner lining of a joint. Surgical removal is the only radical treatment, however local recurrence rate is still high. Recently, we revealed that zaltoprofen, a nonsteroidal anti-inflammatory drug possessing an ability of activation of Peroxisome proliferator-activated receptor gamma (PPARγ) could inhibit the cell proliferation and induce apoptosis to stromal cell from PVNS via an activation of PPARγ. PPARγ is a ligand-activated transcription factor that belongs to the nuclear hormone receptor superfamily. PPARγ plays a central role in the differentiation of adipocytes from precursor cells and is also reported to exhibit anti-tumorigenic effects on a certain malignancy.

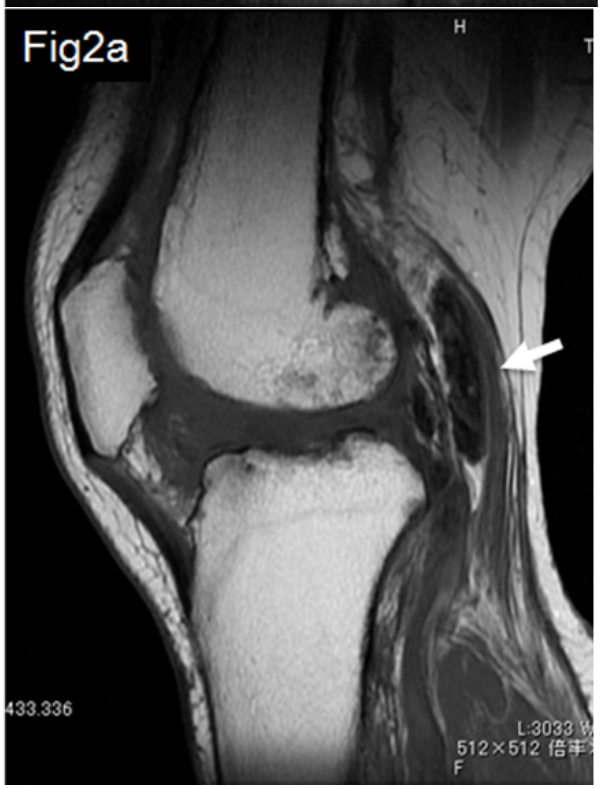
Materials and methods:
Patients with advanced primary and recurrent PVNS were enrolled in this study. Zaltoprofen (240mg) was given orally, daily. The response was assessed using the Response Evaluation Criteria in Solid Tumors (RESIST), which was measured by MRI every 3 months. To evaluate the functional status of the patients, Karnofsky Performance (KP) Scale was assessed. Adverse effects were evaluated using the Common Terminology Criteria for Adverse Events v4.0 (CTCAE).

Results：10 patients were enrolled. Mean age was 44 years (range, 16 to 66 years). Mean tumor size was 54 mm (range, 29 to 93 mm). Mean treatment periods were 93 weeks (range, 12 to 143 weeks). Tumor locations were knee in 6 and ankle in 4 pts. Mean tumor size reduction was 4.1% (range, -8% to 16.4%). Nine patients kept the stable disease and one patient showed progressive disease after 72 weeks. Mean pre- and post treatment KP scale was 85 (range, 70 to 90) and 91 (range, 90 to 100), respectively. No adverse effect (>Grade 3) was observed. Surgery was done in 2 patients.

Conclusion：Zaltoprofen was well tolerated and showed favorable response. Further clinical trial in a randomized setting is necessary.







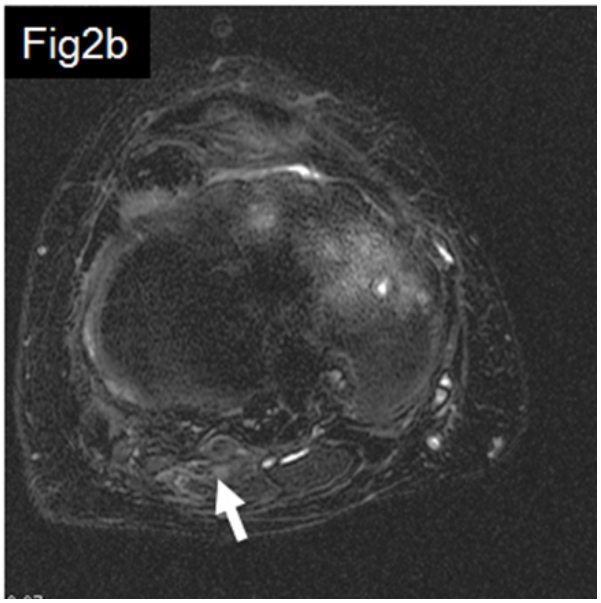


Fig.1: Pre-treatment MRI (Fig1a: sagittal image, Fig1b: axial image) showed the recurrent PVNS around the popliteal fossa (white arrow). Fig.2: Post-treatment MRI (Fig2a: sagittal image, Fig2b: axial image) showed the mild shrinkage of tumor (white arrow).