

Post Paleogene brittle deformations along the Median Tectonic Line, Chubu district

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The Median Tectonic Line (MTL) has a history of activity at least 60 million years after the paired metamorphic belts contacted each other by the MTL. The MTL from Chubu to Kanto regions bent as syntax arrangement because of the rotation of Japanese Islands and following collision of Izu-Bonin arc against the Honshu arc from c. 20Ma. Such rotation brought about the change of shear sense along the MTL (ex. Tanaka and Hara, 1990). The MTL in the south of Oshika Village has been identified as an active dextral fault due to topographic features (Sakamoto, 1977). In this study, we investigated brittle structures at the MTL exposures in the Ina and Oshika areas and determined the evidence of the latest activities. The investigated outcrop name from north to south is Hiji, Mizoguchi-kita (north), Mizoguchi in Ina City and Anko in Oshika Village. The weakest part of the MTL gouge shows dextral shear sense in all outcrops. We also found the sinking of terrace gravel into the basement rocks along the weakest MTL gouge in Mizoguchi-kita and Anko outcrops. Furthermore, the MTL fault transects overlying terrace deposit in the Hiji outcrop. Some weakly consolidated gouges in the Hiji and Anko outcrops shows sinistral shear sense. Reverse faults with little gouge materials are well developed in all outcrops, and in the Mizoguchi outcrop, reverse fault was transected by the fault with weak gouge showing dextral sense. Accordingly, the shear sense changes from sinistral to dextral, and reverse fault was developed prior to the dextral movement. We also found the gouge derived from Sanbagawa metamorphic rocks intercalated in the Ryoike granitic rocks in Anko outcrop, and it is considered due to repeated faulting of the MTL as tectonic slices. To identify the depositional age of the terrace deposits transected by the MTL in Hiji outcrop, we have extracted few grains of volcanic glass in the silt layer. We are trying to specify original sources volcano and the age, and hope to present the results in the poster.

Keywords: Median Tectonic Line, Chubu district, fault gouge, Riedel shear, volcanic glass