

Submarine landslide structure in the lower Pleistocene slope deposits, exposed at the Miura Peninsula, central Japan.

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The Nojima Formation, a lower Pleistocene slope deposit, of the middle Kazusa Group is exposed at the northern Miura Peninsula, central Japan. In the study area, the submarine landslide deposits are observed at the horizon between 2-65 m below the YH02 tuff bed correlated with the Kd39 tuff bed (1.76 Ma: Nagahashi et al., 2000) of the Kiwada Formation of the Kazusa Group in the Boso Peninsula. We investigated the internal structure of submarine landslide deposits of the Nojima Formation based on the field observation and bored core analysis.

The Nojima Formation of the study area is divided into three units, lower, middle and upper units. The lower unit, about 50 m thick, is composed of muddy sandstones lower and alternation of sandy mudstones and mudstones upper, the middle unit, about 20 m thick, is mainly composed of muddy sandstones, and the upper unit, about 5-40 m thick, is of conglomerate lower to muddy sandstones upper, representing fining upward. The sandy mudstones of the middle unit are sharply contact with the uppermost mudstones of the lower unit. At the boundary, the mudstone is partly injected into the sandy mudstones. The injection has width's up to 40 cm and lengths up to 3 m. Strikes and dips in the middle unit represent various values, which are not in accord with those of the lower and upper units representing constant values. Total five tuff beds are correlated between the lower unit and middle unit, which indicates all horizon of the middle unit is duplicated with the lower horizon. The conglomerate of the lowermost of upper unit, eroding and covering the middle unit, is composed of mudstone, muddy sandstone and sandstone boulders.

The duplication of the middle and lower units indicate that the middle is a slide block and run onto the lower unit by submarine landslide. The middle unit is coarser than the same horizon of the lower unit, which indicates the middle unit is originated from more proximal environment than the lower. Then the upper unit is interpreted as gravity flow deposits filling the slide scar. Considering the stratigraphic relationship based on key tuffs, the heights of the landslide are estimated as up to 110 m+ thick.

Keywords: submarine landslide, lower Pleistocene, Kazusa Group, Nojima Formation, Miura Peninsula, slope deposits