The comparison of sedimentary environment between Atsuta Formation and Alluvium based on facies analysis of sediment cores.

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Understanding of the past environmental changes from glacial to the following interglacial stages in a coastal area is crucial to predict the impact of global warming on coastal environments. Sedimentary environmental changes during the periods from Marine Isotope Stage (MIS) 2 to 1, and from MIS 6 to 5 should be similar to each other as the oxygen isotope curves in both periods are similar. But comparative studies of sedimentary environments in the two periods are still very few. We selected southwest Nobi Plain as study area, and try to reconstruct sedimentary environments from MIS 6. We also compare sediments deposited during MIS 6-5 and MIS 2-1 using two cores of Oyamada (OYD, 115m deep) and Uzunawa (UZN, 94m deep). They were obtained from Mie Prefecture near the present shore line by Geological Survey of Japan in 1995. By facies analysis, five formations are recognized in the two cores. These are Second Gravel Formation (G2), Atsuta Formation (AT), First Gravel Formation (G1), Nobi Formation (NB) and Nanyo Formation (NA). We subdivided AT into four sedimentary units (AB, ALB, ALM, AU), and NA into three sedimentary units (NAB, NAM, NAT). Both the two cores include one sequence boundary (at the base of G1) and two ravinement surfaces (at boundary of AB/ALB and NB/NAB) respectively. We recognized four sedimentary environments (inner bay, delta front, floodplain and river channel). In UZN core, ALB (inner bay sediments of MIS 5e) mainly consists of silts, while NAB(inner bay sediments during MIS 1) consists of very fine sands with coarse sands and granules. This contrast in sedimentary facies indicates the possibility that inner bay area during MIS 5e was larger than that during MIS 1.