Objectives: The aims of this study were to evaluate the influence of gender and dental status on the mental index, mandibular cortical index and panoramic mandibular index from dental panoramic radiographs in elderly who had osteoporosis or did not have osteoporosis. Methods: Panoramic radiographs of 487 elderly dental patients (age range 60-88 years) were evaluated. It were recorded osteoporotic status according to the patients’ medical anamnesis and values of the mandibular cortical index (MCI), panoramic mandibular index (PMI), mandibular cortical width (MCW) Results: Dental status was statistically significantly associated with the mandibular cortical width, panoramic mandibular index and the categories of MCI (P<.05). There were statistically different mandibular cortical width and panoramic mandibular index values in patients with osteoporosis and without osteoporosis (P<.05) Conclusions: Our study showed that there were statistically significant differences according to gender, dental status, and values of the MCW, MCI and PMI between patients with and those without osteoporosis. (Eur J Dent 2011;5:60-67)