



**Supplementary Fig. 1.** Atlantoaxial joint fusion without crosslink fixation. (A) A preoperative open-mouth view of a 74-year-old male patient with an atlas fracture after a traffic accident. The sum of the overhang of the C1 lateral masses on the C2 facet was 6.7 mm. (B) The computed tomography (CT) findings were classified as type II Landells and Van Peteghem. (C) There was a rupture of the transverse atlantal ligament (Dickman type I). (D) The patient underwent nonoperative management with halo-vest immobilization for 6 weeks. He complained of continuing neck pain and headache. Follow-up CT findings showed additional slippage of the fractured lateral masses compared to the initial phase. (E) Postoperative CT showed C1 lateral mass screw-2 pedicle screw fixation with atlantoaxial joint fusion, but without crosslinking. (F) Twelve-month postoperative CT showed good fusion in the left atlantoaxial joint, but nonunion in the right atlantoaxial joint. The patient's neck pain was tolerable, but neck motion was restricted. (Courtesy of Prof. SW Kim).