Small diameter implantable cardioverter-defibrillator (ICD) leads are prone to cause unexpected failures in remote phase. We demonstrate a case of unusual insulation breaks detected 5 years after ICD implantation. A 37-year-old male of Brugada syndrome received a prophylactic ICD implantation of a single-chamber device (AtlasVR, SJM). A dual coil ICD lead (Riata 1570, SJM) was implanted at right ventricular apex with passive fixation. Four years after, we found some non-reproducible episodes of oversensing only when the patient press his hands together. We set the detection interval longer, and reduced the R wave sensitivity in order to prevent inappropriate shocks. After one year, we recognized intermittent episodes of noise oversensing during the interrogation. The ICD lead profile appeared to be normal though the lead impedance had gradually reduced (560ohm to 350ohm). Interestingly, the chest X-ray revealed the lead was torn in the longitudinal direction and some cables were separated from the main body. He underwent a new lead implantation and has been fine without any complications. Since the lead profile remains within normal limits, and the lesion of insulation break is peculiar, SJM-Riata lead failure would be prone to be overlooked.

**Keywords:** ICD, insulation break, follow up