INTRODUCTION AND AIMS: In 2009, large-scale clinical trials STAR and ASTRAL criticised the place of renal angioplasty in ARVD (Atherosclerotic Renovascular Disease). Nevertheless, high risk presentations were not evaluated in these trials. We studied the 3-year results of renal angioplasties in high risk presentations of ARVD in the post-ASTRAL era.

METHODS: All renal angioplasties performed in the Rennes university hospital between January 2010 and December 2013 were collected. We selected high risk presentations: renovascular resistant Hypertension (HTN), Flash Pulmonar Edema (FPE), Acute Kidney Injury (AKI) secondary to ARVD, stenosis on solitary functioning kidney, and renal ischemia according to an imaging criterion: acceleration time (AT) > 70 milliseconds (ms) in doppler sonography, or decreased kidney parenchymal enhancement at arterial acquisition time in Computed Tomography Angiography (CTA) or Magnetic Resonance Angiography (MRA). Primary end point was a composite criterion of survival, renal outcome: estimated Glomerular Filtration Rate (eGFR) decrease < 50%, and cardiovascular outcome: none hospitalization for acute heart failure, myocardial infarction, or stroke.

RESULTS: We collected 57 renal angioplasties performed for ARVD. 52 had high risk presentations. After a mean follow-up of 3.6 ± 0.6 years, renal angioplasty success according to primary endpoint was achieved for 30/41 (73.2%) patients. Survival, renal outcome, and cardiovascular outcome were respectively achieved for 40/45 (88.9%), 32/37 (86.5%) and 34/39 (87.2%) patients. Two patients treated by hemodialysis before renal angioplasty recovered renal function.

CONCLUSIONS: Our results encourage to keep performing renal revascularisation in some selected presentations of ARVD. This work is limited by the few participants, its retrospective and non-controlled features. Imaging prognostic parameters remain to be identified in ARVD.