appendage increased after 48 h AF; frequency irregularity, the voltage of field potential decreased in atrial appendage, field potential duration increased.

**Objectives** To explore electrical characteristics of RAA and LAA in 48 h AF canine with MEA chip technique.

**Methods** Twelve adult healthy mongrel canine were randomly divided into two groups: pacing group and control group. The morphology, duration, voltage, discharge frequency and conduction of field potential were recorded.

**Results** In AF group, the rhythm of LAA and RAA tissue field potential were irregular, LAA increased in the percent of 15.67%, RAA decreased in the percent of 34.62% than the control group. The voltage of LAA and RAA decreased than the control group, the duration of field potential of LAA and RAA shorted than control group. Electricity impulse represents anisotropic alteration.

**Conclusions** MEA is sensitive, long time and stable and local tissue action potential multiple-channel recording mapping system in animal heart slices. The discharge frequency of left atrial