Can Metformin Prevent Atrial Arrhythmogenic Remodelling?

**Background**
Structural, electrical and metabolic remodelling of the atria facilitates the initiation and perpetuation of atrial fibrillation (AF). Targeting the atrial myopathy that serves as a substrate for AF could help prevent disease progression and reduce therapeutic resistance (Figure 1).

**Aim**
To evaluate the effect of metformin on atrial arrhythmogenic remodelling. We hypothesised that metformin reduces AF-induced electrical remodelling.

**Methods**
Horses receiving either metformin (n = 7) or placebo (n = 7) had AF induced by right atrial tachypacing. Right and left atrial effective refractory periods (aERPs) were recorded by extra stimulus (S2) epicardial pacing (Figure 2) at pacing cycle lengths 1000ms and 500ms.

**Interregional RA ERP dispersion**

![Interregional RA ERP dispersion](image)

**Transvenous biopsy collection**

![Transvenous biopsy collection](image)

**Structural remodelling**

![Structural remodelling](image)

**Conclusion**
Metformin may attenuate AF-induced electrical remodelling. Future work will evaluate its effect on structural and metabolic remodelling.