**REVERSAL OF XYLAZINE-INDUCED BRADYCARDIA WITH INTRALIPID**

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*Objectives*: Sudden cardiac arrest accounts for 300 000 to 400 000 deaths annually in United States both in men and women. Cardiac arrest could be due to abnormally slow heart rate known as bradycardia. Bradycardia is a catastrophic event which is associated with significant mortality and morbidity.

*Background*: We have previously shown that Intralipid protects the heart against ischemia/reperfusion injury as well as Bupivacaine induced cardiotoxicity. Here we examined whether intralipid can protects the heart against bradycardia.

*Method*: Wild type female mice C57/Bl6 (2-4 month old) were anesthetized by isoflurane after heparinization. The heart was removed immediately and placed in cold Krebs–Henseleit buffer. The aorta was cannulated and the isolated heart (Langendorff) was perfused with Krebs–Henseleit at 37°C for 15 min for stabilization. Xylazine (100-300 mg) was directly applied to the heart surface for 1-2 min until bradycardia was achieved. The heart was then perfused with either Krebs-Henseleit (KH) solution (control group), or 1% ILP (intralipid group). Hemodynamic parameters and heart rates were recorded with a catheter directly inserted into left ventricle.

*Results:* The heart rates at the baseline before inducing bradycardia was 224±7 beats/min and the left ventricular pressures was 64±4 mmHg. Administration of Xylazine decreased the heart rate significantly to 81±9 beats/min and left ventricular pressure to 5±2 mmHg (p<0.001). Perfusion of the heart with intralipid rapidly restored the heart rate to 209±30 and left ventricular pressure to 59±4 which were not significantly different than their values before inducing bradycardia at the baseline. In the hearts that received Krebs–Henseleit after bradycardia, the heart rate (81±10 beats/min) and left ventricular pressure (20±8 mmHg) were significantly lower than intralipid group. In conclusion Intralipid has the ability to rapidly reverse bradycardia in female mice.