**Supplementary file 1**

**Myocardial infarction (MI) procedure**

At the time of MI, the mean (± SD) age of the pigs were 11.6 (± 0.52) months for lean and 18.43 (± 1.62) months for obese. The mean size (± SD) of the MI as measured by 2,3,5-triphenyltetrazolium chloride (TTC) staining was 14.8 (± 3.26) mm and 9.43 (± 4.08) mm for lean and obese, respectively. The MI study ran for eight weeks for all pigs in both groups and the animals were euthanised afterwards.

All MI steps were performed by qualified veterinarians [1, 2]. Myocardial infarction was induced by balloon occlusion of the left anterior descending artery (LAD) for 120 minutes, followed by reperfusion. The occlusion was made with an angioplasty guide wire inserted into the LAD and a 2.5-3.0 × 15-mm Ikazuchi Zero balloon (Kaneka Medical Products, Japan) inflated to 6 atmospheres after the first diagonal branch of the LAD. Complete blockage of blood flow was confirmed by angiography. Before the procedure, Zoletil mix was used as short anaesthetic and induction of anaesthesia (Zoletil 50 Vet. 125 mg Tiletamin+125 mg zolazepam, Virbac Denmark A/S, Kolding, Denmark) mixed with 6.5 ml of Xylazine (Xysol Vet. 20 mg/ml, ScanVet Animal Health A/S, Fredensborg, Denmark), 1.25 ml Ketamine (Ketaminol Vet. 100 mg/ml, MSD Animal health A/S, København V, Denmark) and 2.5 ml of Butorphanol (Torbugesic Vet. 10 mg/ml, Zoetis, Finland), dosed at 1 ml per 10 kg of body weight intramuscular (IM).

Anaesthesia was induced with the Zoletil mix and maintained with Propofol (Propolipid 10 mg/ml, Fresenius Kabi, København S, Denmark) as an IV constant rate infusion (CRI). Propofol was adjusted during the procedure. For the lean animals, the initial dose was 15 mg/kg/h, which was lowered to 10 mg/kg/h after the occlusion and lowered again after reperfusion to 5 mg/kg/h. For obese animals, the same principle applied, only with reduced dosages in steps of 12.5, 7.5 and 5.0 mg/kg/h propofol to avoid accumulation in adipose tissue, which would lead to prolonged anaesthesia and recovery. Fentanyl (Fentadon Vet. 50 μg/ml, Dechra Veterinary Products A/S, Uldum, Danmark) was administered as IV CRI throughout the procedure at a constant dose of 5 μg/kg/h. Before the MI procedure, the pigs received a pre-operative treatment consisting of analgesia and antibiotics with Meloxicam (Metacam 20 mg/ml, Boehringer Ingelheim Vetmedica, Ingelheim/Rhein Germany) dosed at 0.6 mg/kg IV and Amoxicillin (Ampicillin STADA 1g, STADA Nordic, Herlev, Denmark) dosed at 15 mg/kg IV.

During the procedure, the pigs were administered Ringer’s Acetate (Fresenius Kabi, København S, Denmark) at a rate of 5-10 ml/kg/h IV as well as Heparin (Heparin LEO 5000 IE, LEO Pharma A/S, Ballerup, Denmark) given as a 200 IU/kg IV bolus. Moreover, the pigs were treated with Amiodarone (Sanofi A/S, København Ø, Danmark) 10 mg/kg administered in 20 ml saline over a 20-minute period before occlusion to prevent arrhythmias. The pigs received Lidocaine boluses of 2 mg/kg IV 5 and 25 minutes after occlusion onset

Post-operative care comprised triple analgesia with single dose Buprenorphine (Vetergesic Vet 0.3 mg/ml, Patheon UK Limited, Wiltshire, Great Britain) at 0.01 mg/kg IM, given 30 minutes after discontinuing the intraoperative analgesia. Buprenorphine (Transtec 35, 52.5 and 70 μg/h depotplaster, Grünenthal GmbH, Aachen, Germany) was also administered as a transcutaneous patch with a dose of 3.5 μg/kg/h effective for 72 hours post placement (in house data from Novo Nordisk A/S). Finally, Meloxicam (Metacam oral susp. Til svin 15 mg/ml, Boehringer Ingelheim Vetmedica GmbH, Ingelheim/Rhein, Germany) were given 0.6 mg/kg given PO for three days as well as antibiotic treatment with Ampicillin (Paracillin vet 800 mg/g, Intervet international B.V., Boxmeer, Netherlands) 15 mg/kg PO once daily for three days and antithrombotic treatment in the form of Acetylsalicylic acid (Hjertemagnyl 75 mg, Takeda GmbH Oranienburg, Germany) at 7 mg/kg once daily for 28 days from the day of procedure and onward.

**References:**

1. Bentsen, S., et al., *[68Ga] Ga-NODAGA-E [(cRGDyK)] 2 Angiogenesis PET/MR in a Porcine Model of Chronic Myocardial Infarction.* Diagnostics, 2021. **11**: p. 1807.

2. Schuleri, K.H., et al., *The adult Göttingen minipig as a model for chronic heart failure after myocardial infarction: focus on cardiovascular imaging and regenerative therapies.* Comp Med, 2008. **58**: p. 568-579.