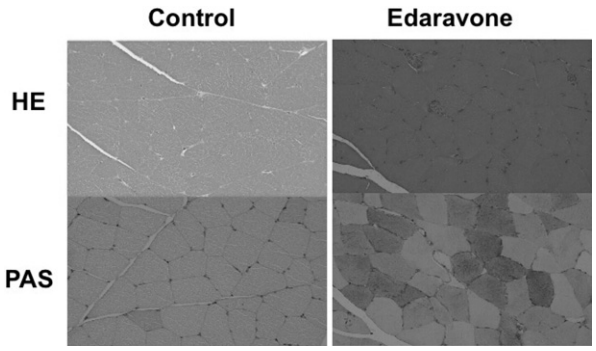

Fig.

vone; 9.0 mg / kg, n = 5) or saline (control group; n = 5) at the same time as removing the clamps. Five hours after de-clamping, the muscles of lower extremity were harvested. Tissues were stained with hematoxylin & eosin (HE), in order to count the viable muscle cells. They were also stained with periodic acid-Schiff (PAS), in order to assess the glycogen storage in muscle cells.

Results: The density of viable muscle cells in the group edaravone was significantly greater than that of control group (593±60 cells/mm2 vs. 258±31 cells/mm2, $P < .01$). The mean percentage of PAS-positive area in the edaravone group was also significantly higher than that in control group (30.1 ± 6.9 % vs. 7.3 ± 2.1%, $P < .001$, Fig, original 200x).

Conclusions: Our results suggest that edaravone injected at the start of reperfusion can also reduce muscle injury following leg ischemia in rats, storing a high level of glycogen in viable muscle cells. Therefore, edaravone might be useful in clinical settings following leg ischemia.

Author Disclosures: S. Fukui: Nothing to disclose; **M. Mitsuno**: Nothing to disclose; **Y. Miyamoto**: Nothing to disclose; **M. Ryomoto**: Nothing to disclose; **H. Tanaka**: Nothing to disclose; **M. Yamamaura**: Grant-in Aid for Researchers Hyogo College of Medicine 2011,Research Grants; **Y. Yoshioka**: Nothing to disclose.

PS210.

The Potential for Ascorbic Acid Mediated Nephroprotection in an Animal Model of Contrast-Induced Nephropathy following Endovascular Aneurysm Repair

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Objectives: The nephroprotective effect of ascorbic acid in humans receiving intravenous contrast in percutaneous coronary interventions is beginning to be established. Currently there is no data from either clinical or in vivo models assessing the potential of ascorbic acid as a nephroprotective agent in patients undergoing Endovascular Aneurysm Repair.

We used an in vivo murine model to evaluate the potential therapeutic effect and appropriate dosage of vitamin C to prevent contrast induced nephropathy (CIN).

Methods: A total of 24 mice were divided into 4 groups, mice from all groups (except the negative control) received Omnipaque and were then treated with; low or high dose ascorbic acid or saline positive and negative controls. Urine was collected and pooled from each group before and after the various treatments then centrifuged and analysed for NGAL (neutrophil gelatine associated lipoprotein). At the end of the study kidneys from each mouse were explanted and frozen. One kidney per mouse was analysed by histopathology and immunohistochemical staining for haematoxylin-eosin (HE), caspase-3, NGAL and TUNEL (transferase mediated dUTP nick-end labelling). The remaining kidney was lysed and analysed for expression of NGAL by ELISA.

Results: Kidney lysate NGAL ELISA analysis demonstrated a 50% reduction in renal damage in animals receiving low dose following contrast administration, although this degree of protection was not observed in the high dose group. There was no significant difference in the degree of renal injury seen between groups by HE staining, however initial immunohistochemistry for markers of early apoptosis showed a decrease in caspase 3 expression in both low and high dose ascorbic acid groups compared to the positive control.

Conclusions: Our mouse model suggests that one mechanism for acute renal injury induced by contrast media may involve caspase-dependent apoptosis, and that ascorbic acid administration can prevent CIN. Further work is suggested in human subjects on this topic.

Author Disclosures: M. Baker: Nothing to disclose; **J. Boyle**: Nothing to disclose; **M. Griffiths**: Nothing to disclose; **L. Janeckova**: Nothing to disclose; **A. Noorani**: Nothing to disclose; **K. E. Rollins**: Nothing to disclose.

PS212.

Evaluation of Porcine Dermal Collagen (Permacol) as an Alternative Vascular Conduit for Interposition Grafting in the Presence of Bacterial Contamination in a Rabbit Model

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Objectives: Autogenous vein and PTFE are two common conduits used to bypass arterial injuries. PTFE is prone to infection and subsequent graft failure in contaminated wounds. Biosynthetic materials used as conduit are potentially more resistant to infection than PTFE. The objective of this study is to compare Permacol, a biosynthetic material, to vein as a vascular conduit for arterial repair in the presence of bacterial contamination.

Methods: Thirty six New Zealand white rabbits were randomized to one of four groups: Permacol or autogenous vein graft, with or without bacterial contamination (n = 9). All groups underwent interposition grafting of the common carotid artery. Grafts were contaminated with Staphylococcus aureus upon completion of surgery. Grafts were then excised at day 42 and segments were collected for histological evaluation and bacterial load measurement.

Results: Three animals in the contaminated vein group died within 72 hours of surgery. There were no deaths in the other groups. At 42 days, Permacol demonstrated greater patency than vein in the contaminated groups ($P > .05$) and equivalent patency in the non-contaminated group. No difference was found between the 2 contaminated groups in the bacterial content of graft material at 42 days.

Conclusions: When used as a conduit in a contaminated field, Permacol was equivalent to autogenous vein graft with respect to patency and bacterial contamination. When contaminated, Permacol was associated with better survival rates as compared to autogenous vein. Permacol may function as an alternative to autogenous vein as a vascular conduit.

Author Disclosures: J. R. Brockmeyer: Nothing to disclose; **A. L. Naig**: Nothing to disclose; **B. M. Prasad**: Nothing to disclose; **R. D. Rice**: Nothing to disclose; **T. E. Simon**: Nothing to disclose; **P. W. White**: Nothing to disclose.

PS214.

Aging Does Not Affect Muscle Regenerative Capacity in Mice

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Objectives: Muscle regeneration is an ongoing process which is increased after injury. Whether aging has any effect on this process is an ongoing question. The present study examined myofiber size and adipocyte accumulation within regenerated muscle in a murine model of aging.

Methods: Three age groups of C57Bl/6J mice were studied: young (4-6 months old), middle (12-14 months) and old (25+ months). Cardiotoxin was injected to cause muscle injury. After fourteen days, light microscopic histomorphometry was used to quantitate tibialis anterior myofiber size and intramuscular adipocyte content.

Results: At baseline, young and middle aged male mice had similar fiber size while older mice had smaller myofibers (2628 ± 52.1, 2797 ± 62.7, 2090 ± 124.9μm^2 respectively). Female mice showed a similar pattern (2115 ± 68.4, 2077 ± 60.7, 1499 ± 206.5 μm^2 respectively). After injury, male mice demonstrated similar myofiber size when compared to baseline (1632 ± 101.6, 1523 ± 43.6, 1402 ± 75.1 μm^2, from young to old). Females similar comparative results (1624 ± 81.5, 1423 ± 36.9, 1326 ± 68.4 μm^2 respectively). Fat was zero at baseline for both male and female mice regardless of age. Following injury, male mice had similar adipocyte accumulation when compared to each other while females accumulated two to four times the amount of fat that males did at the same time point.

Conclusions: Muscle regeneration is not significantly affected by aging. Female mice gain more adipose tissue after injury than males; however, this is not related to increasing age.

Author Disclosures: H. M. Hancock: Nothing to disclose; **M. McHale**: Nothing to disclose; **L. M. McManus**: Nothing to disclose; **L. Porter**: Nothing to disclose; **Z. Sarwar**: Nothing to disclose; **P. K. Shireman**: Nothing to disclose.

PS216.

Angiogenesis Inhibitor Sunitinib Suppresses the Formation and Progression of Experimental Abdominal Aortic Aneurysm

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Objectives: Mural angiogenesis is a prominent pathologic feature in abdominal aortic aneurysm (AAA) disease. We evaluated the effect of sunitinib, an FDA-approved angiogenesis inhibitor, on the formation and progression of experimental AAA.

Methods: AAAs were created via by intraaortic PPE infusion in 10-wk-old male C57BL/6 mice. Oral sunitinib (or vehicle alone) was administered either from 1) 3 days prior to PPE infusion, or 2) 5 days thereafter - until sacrifice. Aortic diameter was serially monitored via ultrasound, and aortae harvested for histopathology at 14 days.

Results: AAA (defined as ≥50% diameter increase) developed in all vehicle-treated mice (n=4-7 mice). Sunitinib treatment initiated prior to PPE infusion at 4, 20 or 100 mg/kg/day prevented AAA formation (n=3-7 mice). Additionally, sunitinib initiated after PPE