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### Data Article

# Experimental supporting data on evaluation of skeletal muscle perfusion in canine hind limb ischemia model using color-coded digital subtraction angiography



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#### ABSTRACT

In this article, we presented the detailed measurements and comparisons of skeletal muscle perfusion parameters in a canine hind limb ischemia model. Data presented here is related to and supportive to the research article "Evaluation of skeletal muscle perfusion in canine hind limb ischemia model using color-coded digital subtraction angiography" [1], where interpretation of the research data presented here is available.

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Specifications Table

Subject area	Radiology
More specific subject area	Interventional Radiology
Type of data	Tables
How data was acquired	Digital subtraction angiographic data was acquired after embolization of the canine hind limb at the branch of the left deep femoral artery. This data was then analyzed using the software (Syngo iFlow VC21) in the German Siemens Artis Vascular Imaging System workstation [2,3].
Data format	Analyzed
Experimental factors	Twelve beagles underwent embolization at the branch of their left deep femoral artery.
Experimental features	Perfusion parameters were symmetrically computed in proximal and distal thigh muscles before and immediately after embolization.
Data source location	Nanjing First Hospital, Nanjing Medical University, Nanjing, Jiangsu, China
Data accessibility	Data is with this article
Related research article	Wang T, Su H, Lou W, Gu J, He X, Chen L et al. Evaluation of skeletal muscle perfusion in canine hind limb ischemia model using color-coded digital subtraction angiography, <i>Microvasc Res.</i> 123 (5) (2019) 81–85. <a href="https://doi.org/10.1016/j.mvr.2018.12.003">https://doi.org/10.1016/j.mvr.2018.12.003</a> [1].

### Value of the data

- This data file lists all the measured skeletal muscle perfusion parameters, which may serve as an overview of data analysis using the perfusion processing software (Syngo iFlow VC21).
- This data file presents the measured perfusion parameters comparing before and immediately after embolization, which are helpful for researchers to understand pathophysiology of limb ischemia.
- The canine hind limb ischemia model with perfusion data presented here may be useful for future limb ischemia research.

## 1. Data

In this data file, we presented the detailed measurements of perfusion parameters in a canine hind limb ischemia model. Three datasets were included in this data in brief article: time to peak (TTP), region of interest (ROI) peak values, and region of interest (ROI) peak time values. On color-coded digital subtraction angiography (CC-DSA) maps, TTP and ROI measurements were acquired both before and after embolization. [Table 1](#) lists the TTP data for the iliac and femoral arteries in both hind limbs before embolization. [Table 2](#) lists the ROI peak data in the hind limb ischemia animal model. These ROI peak values were computed in bilateral proximal and distal thigh muscles both before and after embolization during the data acquisition. [Table 3](#) lists the ROI peak time data in bilateral proximal and distal thighs before and after embolization.

## 2. Experimental design, materials and methods

Embolization with polyvinyl alcohol (PVA) particles as an embolic agent at the branch of the left deep femoral artery was performed on twelve beagles to establish the hind limb ischemia animal models. Right hind limbs were used as the controls. Angiography was performed before and immediately after embolization. Using CC-DSA method, we analyzed the efficacy of real-time assessment of revascularization during interventional procedure. All data presented in this data in brief were obtained using the CC-DSA analysis. Using CC-DSA analysis, time to peak (TTP) was measured before embolization in both sides of the beagles' hind limbs at the middle iliac artery, and the distant, middle and proximal femoral artery. Regions of interest (ROI) peak and ROI peak time were symmetrically computed in proximal and distal thigh muscles before and immediately after embolization.

### 2.1. Time to peak (TTP) measurement

Before embolization, we measured the time to peak (TTP) values of the iliac and femoral arteries in both hind limbs measured at the middle iliac artery, and the distant, middle and proximal segments of the femoral artery. The original data for TTP was presented in [Table 1](#).

**Table 1**

Time to peak (TTP1-44) values in seconds for the iliac and femoral arteries in both hind limbs before embolization.

	TTP1	TTP2	TTP3	TTP4	TTP11	TTP22	TTP33	TTP44
1	4.33	5.00	5.33	5.48	4.34	4.49	5.34	5.47
2	4.55	5.35	5.60	5.95	4.54	5.34	5.59	5.94
3	4.40	5.05	5.40	5.60	4.41	5.06	5.41	5.61
4	4.45	5.10	5.40	5.55	4.44	5.09	5.39	5.54
5	4.35	5.00	5.35	5.35	4.36	5.01	5.36	5.36
6	4.36	4.93	5.25	5.35	4.34	4.91	5.23	5.33
7	4.38	5.15	5.35	5.45	4.40	5.17	5.37	5.47
8	4.42	4.70	5.05	5.40	4.40	4.68	5.03	5.38
9	4.50	4.90	5.30	5.70	4.52	4.92	5.32	5.72
10	4.30	4.65	4.95	5.20	4.28	4.63	4.93	5.18
11	4.32	4.73	5.00	5.20	4.31	4.72	5.00	5.19
12	4.36	5.10	5.30	5.40	4.35	5.09	5.28	5.41

**Table 2**

Region of interest (ROI) peak values (P1-44) in bilateral proximal and distal thighs before and after embolization.

	P1	P2	P3	P4	P11	P22	P33	P44
1	1.25	1.45	1.26	1.42	.72	1.11	1.25	1.40
2	1.05	1.30	1.04	1.32	.55	.75	1.04	1.32
3	1.15	1.50	1.11	1.45	.68	1.15	1.09	1.42
4	1.14	1.42	1.14	1.42	.65	1.10	1.13	1.45
5	1.08	1.34	1.10	1.40	.55	.95	1.10	1.35
6	1.10	1.38	1.08	1.38	.60	.99	1.10	1.37
7	1.19	1.55	1.17	1.54	.68	1.15	1.18	1.58
8	1.15	1.40	1.14	1.44	.68	1.05	1.15	1.45
9	1.14	1.42	1.14	1.42	.65	1.10	1.13	1.45
10	1.20	1.52	1.18	1.50	.68	1.12	1.19	1.55
11	1.21	1.50	1.20	1.49	.70	1.10	1.21	1.50
12	1.18	1.49	1.17	1.50	.66	1.13	1.18	1.52

## 2.2. Region of interest (ROI) peak value measurement

The regions of interest (ROI) peak values in the hind limb ischemia animal model were symmetrically computed in bilateral proximal and distal thigh muscles both before and after embolization during the data analysis (Table 2).

**Table 3**

Region of Interest (ROI) peak time (PT1-44) values in seconds in bilateral proximal and distal thighs before and after embolization.

	PT1	PT2	PT3	PT4	PT11	PT22	PT33	PT44
1	10.33	10.10	10.33	10.12	13.10	12.50	10.33	10.35
2	9.75	9.70	9.76	9.69	12.00	11.70	9.79	9.70
3	10.10	9.88	10.08	9.89	12.99	11.95	10.08	9.95
4	9.89	10.01	9.89	10.02	12.80	12.05	9.90	10.03
5	9.78	9.70	9.78	9.71	12.05	11.70	9.76	9.69
6	9.85	9.75	9.86	9.81	12.55	11.90	9.85	9.80
7	10.15	9.90	10.12	9.92	13.05	11.95	10.15	9.90
8	10.06	9.85	10.02	9.88	12.90	11.95	10.00	9.90
9	10.05	9.95	10.03	9.98	12.90	12.00	10.05	10.00
10	10.20	10.03	10.22	10.00	13.05	12.15	10.19	10.01
11	10.25	10.02	10.23	10.01	13.08	12.45	10.22	10.00
12	10.18	10.00	10.16	9.96	13.15	12.10	10.15	9.94

### 2.3. Region of interest (ROI) peak time measurement

The region of interest (ROI) peak time measurements were performed in bilateral proximal and distal thighs before and after embolization bilateral proximal and distal thighs before and after embolization (Table 3).

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### Transparency document

Transparency document associated with this article can be found in the online version at <https://doi.org/10.1016/j.dib.2019.103737>.

### References

- [1] T. Wang, H. Su, W. Lou, J. Gu, X. He, L. Chen, et al., Evaluation of skeletal muscle perfusion in canine hind limb ischemia model using color-coded digital subtraction angiography, *Microvasc. Res.* 123 (5) (2019) 81–85. <https://doi.org/10.1016/j.mvr.2018.12.003>.
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