References

20. Fujine K, Sano M, Katsumata Y, et al. Predicting the effective dose of 5-aminolevulinic acid to protect humans from renal ischemia-reperfusion injury: a study in micro miniature pigs. Journal of Current Surgery 2021;11:8-14.
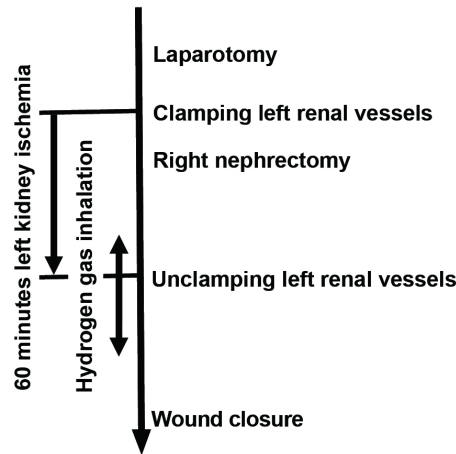
Figure S1 Protocol of a conventional model where 60 min ischemia and subsequent reperfusion injury are induced in the left kidney along with contralateral nephrectomy. This conventional protocol in which 60 min ischemia is induced by clamping left renal vessels followed by a right nephrectomy was used in the previous reports (12,20).

Day	3																	
Pig number	1			2			3			4			5			6		
Hydrogen	Hydrogen			Hydrogen			Control			Hydrogen			Control			Control		
Ischemia time, min	60			60			60			60			60			60		
Score of cortex	5	5	5	4	5	4	5	4	5	5	5	5	5	5	5	5	5	5
	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5
	5	5	5	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5
	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5
	5	5	5	3	3	5	4	4	5	5	5	5	5	5	5	5	5	5
Mean	5	5	5	4.2	4.2	4.8	4.8	4.4	5	5	5	5	5	5	5	5	5	5
Score of medulla	4	5	5	5	4	5	4	5	5	2	4	4	4	5	5	5	4	3
	5	5	5	5	4	4	5	5	5	3	4	4	5	5	5	5	5	3
	4	5	5	5	4	4	5	5	5	4	4	5	5	4	5	5	4	3
	4	5	5	4	5	4	5	5	5	5	4	4	5	5	5	5	5	5
	2	5	4	5	4	4	4	4	5	5	5	4	5	5	5	5	4	5
Mean	3.8	5.0	4.8	4.8	4.2	4.2	4.6	4.8	5.0	3.8	4.2	4.2	4.8	4.8	5.0	5.0	4.4	3.8

Figure S2 Histological evaluation of tubular damages of kidney cortex and medulla in the conventional model. Five fields of 200× magnification were analyzed in each of the three samples in each kidney at random. The percentage of the area affected was estimated for the number of necrotic cells, loss of the brush border, degeneration, cast formation, and tubule dilation were scored as follows: 0=0–5%, 1=5–10%, 2=11–25%, 3=26–45%, 4=46–75%, and 5=>76%.