Effect of paternal overweight or obesity on IVF treatment outcomes and the possible

mechanisms involved.

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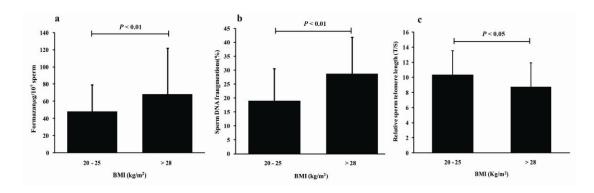
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Supplementary Figure 1. ROS production, sperm DNA frangmentation rate and STL in the two groups. a. Comparison of mean ROS production in men with normal BMIs (20-25 kg/m²; N=50) and those with overweight BMIs (>28 kg/m²; N=54)(Mann-Whitney U test; bars represent standard deviation). b. Comparison of mean sperm DNA fragmentation rate among men with normal BMIs (20-25 kg/m², N=50) and those with overweight BMIs (>28 kg/m²; N=54) (Student's *t* test; bars represent standard deviation). c. Comparison of relative STL (T/S ratio) in men with normal BMIs (20-25 kg/m²; N=50) and overweight BMIs (>28 kg/m²; N=306) (Student's *t* test; bars represent standard deviation).

Supplementary Table 1. Mitochondrial activity between the two BMI groups.

Class	Male BMI (kg/m2)		P
	20-25(N=345)	>28(N=306)	1
DAB Class I	4.1±2.4	3.5±2.5	0.07
DAB Class II	$76.5 \pm 6.5$	73.8±6.5	0.03
DAB Class III	14.2±4.1	11.8±4.1	0.04
DAB Class IV	5.2±4.1	$10.9 \pm 4.0$	< 0.01

Values are shown as the mean±standard deviation; Student's *t* test was used to compare the data between two groups.