

Table S1. The results of univariate logistic regression models.

| Parameter Analyzed effect | TAS | | FRAP | | ALB | | T-BIL | | UA | | IRON | | SIRT3 | | SIRT5 | | SIRT6 | | TE | | AOPP | |
|----------------------------------|--------------------------|---------|------------------------------|---------|---------------------------|---------|--------------------------|---------|--------------------------|---------|--------------------------|---------|--------------------------|---------|--------------------------|---------|--------------------------|---------|-------------------------|---------|--------------------------|---------|
| | OR (95%) | p-value | OR (95%) | p-value | OR (95%) | p-value | OR (95%) | p-value | OR (95%) | p-value | OR (95%) | p-value | OR (95%) | p-value | OR (95%) | p-value | OR (95%) | p-value | OR (95%) | p-value | OR (95%) | p-value |
| E vs. C | 0.241 (0.022 – 2.598) | 0.241 | 24.744 (0.859 – 712.600) | 0.061 | 1.915 (0.660 – 5.560) | 0.232 | 0.721 (0.124 – 4.187) | 0.716 | 1.091 (0.586 – 2.032) | 0.784 | 0.999 (0.989 – 1.008) | 0.999 | 1.033 (0.943 – 1.132) | 0.483 | 1.004 (0.891 – 1.132) | 0.943 | 1.029 (0.978 – 1.083) | 0.277 | 4.633 (1.013–21.187) | 0.048 | 1.018 (1.005 – 1.030) | 0.005 |
| III E vs. C | 0.184 (0.007 – 4.735) | 0.307 | 11.718 (0.522 – 263.161) | 0.121 | 6.873 (1.183 – 39.923) | 0.032 | 0.398 (0.026 – 6.084) | 0.508 | 1.154 (0.611 – 2.180) | 0.659 | 1.007 (0.993 – 1.020) | 0.330 | 1.040 (0.933 – 1.161) | 0.478 | 1.015 (0.887 – 1.162) | 0.826 | 1.010 (0.939 – 1.085) | 0.797 | 5.893 (1.036–33.527) | 0.046 | 1.015 (1.002 – 1.027) | 0.026 |
| IV E vs. C | 0.228 (0.015 – 3.387) | 0.283 | 30.593 (0.670 – 1397.438) | 0.079 | 0.943 (0.238 – 3.739) | 0.933 | 0.887 (0.138 – 5.719) | 0.900 | 1.003 (0.458 – 2.200) | 0.993 | 0.991 (0.978 – 1.004) | 0.168 | 1.028 (0.932 – 1.134) | 0.578 | 0.994 (0.873 – 1.132) | 0.929 | 1.042 (0.983 – 1.104) | 0.165 | 2.984 (0.711–12.523) | 0.135 | 1.021 (1.006 – 1.036) | 0.006 |
| E vs. NE | 0.211 (0.030 – 1.499) | 0.120 | 0.383 (0.061 – 2.397) | 0.305 | 1.622 (0.731 – 3.600) | 0.234 | 0.381 (0.103 – 1.406) | 0.148 | 1.026 (0.693 – 1.519) | 0.897 | 0.998 (0.991 – 1.004) | 0.515 | 1.026 (0.951 – 1.105) | 0.509 | 0.943 (0.847 – 1.051) | 0.288 | 0.992 (0.956 – 1.030) | 0.678 | 1.012 (0.779–1.315) | 0.927 | 1.002 (0.998 – 1.005) | 0.352 |
| III E vs. NE | 6.630 (0.121 – 2.676_ | 0.229 | 0.478 (0.058 – 3.967) | 0.494 | 3.297 (1.159 – 9.378) | 0.025 | 0.242 (0.034 – 1.733) | 0.158 | 1.069 (0.700 – 1.631) | 0.758 | 1.002 (0.994 – 1.010) | 0.587 | 1.032 (0.938 – 1.135) | 0.515 | 0.957 (0.837 – 1.093) | 0.515 | 0.975 (0.917 – 1.037) | 0.421 | 0.875 (0.517–1.481) | 0.619 | 1.001 (0.997 – 1.005) | 0.593 |
| IV E vs. NE | 0.202 (0.020 – 2.011) | 0.173 | 0.313 (0.030-3.265) | 0.332 | 0.862 (0.309 – 2.405) | 0.777 | 0.480 (0.110 – 2.098) | 0.329 | 0.975 (0.616 – 1.542) | 0.912 | 0.994 (0.986 – 1.002) | 0.136 | 1.021 (0.939 – 1.112) | 0.623 | 0.935 (0.821 – 1.065) | 0.310 | 1.001 (0.960 – 1.043) | 0.973 | 1.068 (0.816–1.398) | 0.633 | 1.002 (0.998 – 1.005) | 0.350 |
| E vs. C+NE | 0.201 (0.032 – 1.277) | 0.089 | 1.032 (0.202 – 5.724) | 0.970 | 1.840 (0.842 – 4.020) | 0.126 | 0.434 (0.121 – 1.559) | 0.200 | 1.038 (0.721 – 1.495) | 0.840 | 0.998 (0.992 – 1.004) | 0.535 | 1.029 (0.962 – 1.099) | 0.407 | 0.969 (0.883 – 1.064) | 0.511 | 1.004 (0.969 – 1.040) | 0.816 | 1.129 (0.872–1.461) | 0.357 | 1.004 (1.000 – 1.007) | 0.043 |

Significant differences (p -value of less than 0.05) are shown in red bold. C – control group of healthy women, E - endometriosis group, **III E** - group of moderate endometriosis (stage III according to rAFS classification), **IV E** –group of severe endometriosis (stage IV according to rAFS classification), **NE** - non-endometriosis group, **OR** - Odds Ratio.

Table S2. Backward stepwise regression after verification of the collinearity of the predictors (parameters).

| Parameters | Odds Ratio (OR) | 95% Confidence Interval (CI) | <i>p</i> -value |
|---------------------|-----------------|------------------------------|-----------------|
| E vs. C | | | |
| TAS | 0.001 | 0.000 – 0.651 | 0.037 |
| FRAP | 83534970.264 | 9.901 – 704818378400096.000 | 0.025 |
| AOPP | 1.017 | 1.002 – 1.032 | 0.028 |
| UA | 0.048 | 0.003 – 0.821 | 0.036 |
| III E vs. C | | | |
| FRAP | 37.681 | 1.112 – 1265.890 | 0.043 |
| IV E vs. C | | | |
| Alb | 0.001 | 0.000 – 0.743 | 0.040 |
| SIRT6 | 1.132 | 0.999 – 1.282 | 0.052 |
| AOPP | 1.032 | 1.001 – 1.065 | 0.041 |
| E vs. NE | | | |
| T-BIL | 0.043 | 0.002 – 0.781 | 0.033 |
| III E vs. NE | | | |
| NS | | | |
| IV E vs. NE | | | |
| AOPP | 1.009 | 1.001 – 1.017 | 0.026 |
| E vs. C+NE | | | |
| AOPP | 1.009 | 1.002 – 1.016 | 0.014 |
| T-BIL | 0.051 | 0.003 – 0.955 | 0.047 |

Significant differences (*p*-value of less than 0.05) are shown in red bold. C – control group of healthy women, E - endometriosis group, III E- group of moderate endometriosis (stage III according to rAFS classification), IV E –group of severe endometriosis (stage IV according to rAFS classification), NE - non-endometriosis group, OR - Odds Ratio.

Table S3. The correlations between concentrations of serum parameters of inflammation and oxidative-antioxidant balance.

| Parameter | BMI | CA 125 | Estradiol | PRL | IgG | hs-CRP | IL-1 β | IL-6 | YKL-40 |
|--------------|---------------------|---------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|
| TAS | r=-0.214 p=0.011 | NS | NS | NS | NS | NS | NS | r=0.223 p=0.008 | NS |
| FRAP | NS | NS | NS | r=0.221 p=0.012 | r=-0.350 p<0.001 | r=0.399 p<0.001 | r=0.380 p<0.001 | r=0.386 p<0.001 | NS |
| ALB | NS | NS | r=0.437 p<0.001 | r=-0.183 p=0.036 | r=0.594 p<0.001 | r=-0.553 p<0.001 | r=-0.232 p=0.006 | r=-0.453 p<0.001 | NS |
| T-BIL | NS | NS | r=0.249 p=0.004 | NS | r=0.337 p<0.001 | r=-0.293 p<0.001 | NS | r=-0.175 p=0.041 | NS |
| UA | NS | NS | NS | NS | NS | NS | r=0.270 p=0.001 | NS | NS |
| IRON | NS | r=-0.294 p<0.001 | r=0.217 p=0.012 | NS | r=0.338 p<0.001 | r=-0.540 p<0.001 | NS | r=-0.438 p<0.001 | NS |
| SIRT3 | NS | NS | r=0.268 p=0.003 | NS | r=0.400 p<0.001 | r=-0.239 p=0.008 | NS | r=-0.184 p=0.043 | r=0.743 p<0.001 |
| SIRT5 | NS | NS | NS | NS | r=0.275 p=0.004 | NS | r=0.270 p=0.005 | NS | r=0.798 p<0.001 |
| SIRT6 | NS | NS | NS | NS | r=0.244 p=0.032 | NS | r=0.399 p<0.001 | NS | r=0.829 p<0.001 |
| TE | NS | r=0.262 p=0.027 | NS | r=0.314 p=0.005 | r=-0.275 p=0.015 | r=0.333 p=0.003 | r=0.396 p<0.001 | r=0.300 p=0.008 | NS |
| AOPP | NS | r=0.335 p<0.001 | NS | NS | NS | NS | NS | NS | NS |

The parameters of oxidative-antioxidant balance were correlated with inflammatory parameters determined by us previously (Kokot et al. [47]). AOPP - advanced protein oxidation products, ALB - albumin, CA-125 - cancer antigen 125, FRAP - ferric reducing antioxidant power, hs-CRP – high sensitive C-reactive protein, IgG – immunoglobulin G, IL-1 β – interleukin 1 β , IL-6 – interleukin 6, PRL – prolactin, SIRT-3 - sirtuin 3, SIRT-5 - sirtuin 5, SIRT-6 - sirtuin 6, TAS - total antioxidant status, TE – telomerase, T-BIL - total bilirubin, UA - uric acid, YKL-40 - chitinase-3-like protein 1.