

Supplementary Materials

Supplementary results from the paper: “The health effects of chokeberries (*Aronia* spp.) on a wide range of health markers in 109 mildly hypercholesterolemic Danish men: a prospective, double-blinded, randomized, crossover trial”

Table S1: Cross-over analysis on the effects of placebo (90 days) and Aronia powder administration (90 days) on blood levels of SOD, CAT, Isoprostanes, Haemoglobin A1c and High Sensitive C-reactive Protein. The placebo and Aronia periods are separated by a 90 day washout period. Means represent follow-up measurements. (CI = Coefficient of variation).

| Variable | Treatment order | n | Treatment period | | Difference Aronia-Placebo Means (CI) |
|---------------------------------------|---------------------|----|-----------------------|----------------------|---|
| | | | 1 Means (CI) | 2 Means (CI) | |
| SOD U/ml | Aronia then Placebo | 51 | 6.8 (6.1;7.6) | 5.5 (4.5;6.5) | 1.3 (0.2;2.5) |
| | Placebo then Aronia | 44 | 6.9 (6.0;7.8) | 4.6 (3.8;5.5) | -2.3 (-3.7;-0.9) |
| | Treatment effect | | | | -0.5 (-1.4;0.4) |
| CAT, mU/ml | Aronia then Placebo | 51 | 1.6 (1.6;1.7) | 1.7 (1.6;1.7) | -0.0 (-0.1;0.0) |
| | Placebo then Aronia | 44 | 1.7 (1.6;1.7) | 1.7 (1.6;1.7) | -0.0 (-0.1;0.1) |
| | Treatment effect | | | | -0.0 (-0.1;0.0) |
| Isoprostan, pg/mL | Aronia then Placebo | 50 | 957.5 (713.8;1201.1) | 848.7 (636.6;1060.8) | 108.8 (-116.8;334.4) |
| | Placebo then Aronia | 44 | 1173.1 (618.7;1727.6) | 970.9 (356.2;1585.7) | -202.2 (-1052.6;648.2) |
| | Treatment effect | | | | -46.7 (-485.1;391.8) |
| Haemoglobin A1c | Aronia then Placebo | 51 | 34.6 (33.6;35.6) | 34.6 (33.7;35.6) | -0.0 (-0.4;0.4) |
| | Placebo then Aronia | 44 | 35.8 (34.5;37.0) | 35.6 (34.5;36.8) | -0.1 (-0.6;0.3) |
| | Treatment effect | | | | -0.1 (-0.4;0.2) |
| High Sensitive C- reactive Protein | Aronia then Placebo | 51 | 2.3 (1.2;3.3) | 2.4 (1.6;3.1) | -0.1 (-1.2;1.0) |
| | Placebo then Aronia | 44 | 1.8 (1.3;2.3) | 3.0 (0.7;5.4) | 1.3 (-0.9;3.5) |
| | Treatment effect | | | | 0.6 (-0.6;1.8) |

Table S2: Cross-over analysis on the effects placebo (90 days) and Aronia powder administration (90 days) on a range of sperm quality parameters. The placebo and Aronia periods are separated by a 90 day washout period. Means represent follow-up measurements. (CI = Coefficient of variation).

| Variable | Treatment order | n | Treatment period | | Difference Aronia-Placebo Means (CI) |
|---|---------------------|----|--------------------|--------------------|---|
| | | | 1 Means (CI) | 2 Means (CI) | |
| Concentration of motile sperm (CMS) (/ml) | Aronia then Placebo | 33 | 49.5 (35.6;63.3) | 48.3 (34.1;62.5) | 1.2 (-6.1;8.5) |
| | Placebo then Aronia | 29 | 51.4 (32.2;70.5) | 54.3 (32.6;75.9) | 2.9 (-9.8;15.6) |
| | Treatment effect | | | | 2.0 (-5.2;9.2) |
| Total motile sperm count (TMSC) | Aronia then Placebo | 33 | 155.4 (92.9;218.0) | 145.6 (97.1;194.2) | 9.8 (-27.3;46.9) |
| | Placebo then Aronia | 29 | 154.0 (92.8;215.3) | 166.9 (86.6;247.2) | 12.9 (-37.4;63.2) |
| | Treatment effect | | | | 11.3 (-19.3;42.0) |
| Concentration of progressive motile (CPMS) (/ml) | Aronia then Placebo | 33 | 32.8 (23.7;41.9) | 30.7 (21.8;39.6) | 2.1 (-3.4;7.6) |
| | Placebo then Aronia | 29 | 36.3 (22.4;50.3) | 41.0 (23.4;58.6) | 4.7 (-5.5;14.9) |
| | Treatment effect | | | | 3.4 (-2.3;9.1) |
| Total progressive motile sperm count (TPMSC) | Aronia then Placebo | 33 | 101.4 (64.3;138.6) | 92.7 (62.2;123.2) | 8.8 (-11.7;29.2) |
| | Placebo then Aronia | 29 | 109.0 (64.3;153.8) | 128.5 (58.3;198.7) | 19.4 (-31.0;69.9) |
| | Treatment effect | | | | 14.1 (-12.8;41.0) |
| Sperm volume (ml) | Aronia then Placebo | 33 | 3.0 (2.6;3.5) | 3.0 (2.6;3.3) | 0.1 (-0.2;0.3) |
| | Placebo then Aronia | 29 | 3.1 (2.6;3.6) | 2.9 (2.4;3.4) | -0.2 (-0.6;0.2) |
| | Treatment effect | | | | -0.1 (-0.3;0.2) |

Table S3: Cross-over analysis on the effects of placebo (90 days) and Aronia powder administration (90 days) on levels of blood glucose, HOMA and systolic/diastolic blood pressure. The placebo and Aronia periods are separated by a 90 day washout period. Means represent follow-up measurements. (CI = Coefficient of variation).

| Variable | Treatment order | n | Treatment period | | Difference Aronia-Placebo Means (CI) |
|---|---------------------|----|---------------------|---------------------|---|
| | | | 1 Means (CI) | 2 Means (CI) | |
| Glucose | Aronia then Placebo | 51 | 5.8 (5.7;6.0) | 5.8 (5.6;5.9) | 0.1 (0.0;0.2) |
| | Placebo then Aronia | 44 | 5.9 (5.6;6.1) | 5.9 (5.6;6.2) | 0.0 (-0.1;0.2) |
| | Treatment effect | | | | 0.0 (-0.0;0.1) |
| HOMA | Aronia then Placebo | 51 | 1.9 (1.6;2.2) | 1.9 (1.6;2.3) | -0.0 (-0.2;0.2) |
| | Placebo then Aronia | 44 | 2.2 (1.5;2.9) | 2.0 (1.4;2.5) | -0.2 (-0.7;0.2) |
| | Treatment effect | | | | -0.1 (-0.4;0.1) |
| Blood pressure, systolic (mmHg), left arm | Aronia then Placebo | 51 | 127.8 (123.7;132.0) | 130.2 (126.5;134.0) | -2.4 (-4.7;-0.1) |
| | Placebo then Aronia | 43 | 124.9 (120.9;129.0) | 128.1 (123.8;132.4) | 3.2 (0.9;5.4) |
| | Treatment effect | | | | 0.4 (-1.2;2.0) |
| Blood pressure, diastolic (mmHg), left arm | Aronia then Placebo | 51 | 84.3 (81.6;87.0) | 86.5 (83.8;89.1) | -2.2 (-3.5;-0.9) |
| | Placebo then Aronia | 43 | 83.4 (80.0;86.8) | 84.4 (81.0;87.8) | 0.9 (-0.6;2.4) |
| | Treatment effect | | | | -0.6 (-1.6;0.3) |
| Blood pressure, systolic (mmHg), right arm | Aronia then Placebo | 50 | 129.3 (125.3;133.4) | 130.0 (126.4;133.5) | -0.6 (-2.8;1.5) |
| | Placebo then Aronia | 43 | 126.6 (122.5;130.7) | 128.3 (124.4;132.3) | 1.8 (-0.2;3.8) |
| | Treatment effect | | | | 0.6 (-0.9;2.0) |
| Blood pressure, diastolic (mmHg), right arm | Aronia then Placebo | 50 | 85.5 (82.8;88.2) | 86.6 (84.1;89.1) | -1.1 (-2.4;0.2) |
| | Placebo then Aronia | 43 | 83.5 (80.4;86.6) | 84.7 (81.5;87.8) | 1.2 (-0.2;2.6) |
| | Treatment effect | | | | 0.0 (-0.9;1.0) |