The abstract title is:

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| 11945POSTER 226 | Endothelial Dysfunction in Patients having Asthma with Diabetes Mellitus Type 2 and Obesity | Galyna Yeryomenko – Professor, National Medical University, Kharkiv, UkraineTetyana Bezditko – Professor, National Medical University, Kharkiv, Ukraine |

 (226) Endothelial Dysfunction in Patients having Asthma with Diabetes Mellitus Type 2 and Obesity

**Number:**226

**Category:**209. Asthma: Pathogenesis (Risk factors, genetics, infections that increase asthma risk, air pollutants, environmental tobacco smoke)

Authors

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Body

**RATIONALE:**Profibrotic mediators and endothelial dysfunction markers may impact pulmonary function in patients having uncontrolled moderate asthma (As).

**METHODS:**118 As patients were divided into 3 groups: Group I - isolated As (n=25); Group II As combined with diabetes mellitus type 2 (As+DM2); and Group III included As with obesity (As+Ob) (n=50). All subjects had fasting blood glucose level, insulin levels and HOMA-IR index, content of matrix metalloproteinase 9 (MMP-9), monocyte chemoattractant protein (MCP) and endothelin-1 (ET-1) assessed as well as anthropometric data and respiratory function (RF) obtained.

**RESULTS:**Group I has As for 15.0 [14.0; 21.0] years; Group II had As for 22.0 [19.5; 28.0] years; and Group III has As 17.0 [15.0; 20.0] years. Group III mostly in poorly compensated carbohydrate metabolism. FEV1 was: Group I – 62.0 [41.5; 68.3]%; Group II – 53.0 [46.2; 69.0]%; and Group III – 56.0 [43.5; 68.3]%, with the normal – 95.0 [94.5; 95.0]%. All Groups showed relationships between MCP-1 and MMP-9: r1=0.5 (p=0.01), r2=0.29 (p=0.01),r3=0.86 (p=0.001); VWF: r1=0.49 (p=0.01), r2=0.28 (p=0.02), r3=0.58 (p=0.001); and ЕТ-1: r1=0.63 (p=0.001),r2=0.57 (p=0.001), r3 =0.59 (p=0.001).

**CONCLUSIONS:**Central in the formation of fibrotic changes in uncontrolled moderate asthma are metabolic disturbances in extracellular matrix components, including collagen, impacted by MMP-9, MCP and ET-1 leading to endothelial dysfunction.