Introduction:
Physical condition level = main predictor of cystic fibrosis (CF) prognosis.
α-Klotho protein (αKL) = emerging biomarker of health and aging related to physical condition in healthy population.
In CF patients, recent publications suggest αKL could:
improve lung mucus clearance (through K+ channels activation);
regulate some inflammatory cytokines \( \rightarrow \) control persistent inflammation.
Our aim in this study was thus to determine the possible relations between αKL levels and physical condition in CF adult patients and healthy controls.

Methods:
89 subjects:
36 CF patients (18 women)
53 controls (18 women)
Variables:
age, weight, height, BMI, VO2max, blood levels of αKL and IL10.

Results:

<table>
<thead>
<tr>
<th></th>
<th>Men CF</th>
<th>Controls</th>
<th>Women CF</th>
<th>Controls</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>31.78±7.6</td>
<td>30.6±7.4</td>
<td>33.0±9.3</td>
<td>33.1±9.4</td>
<td>&gt;0.601</td>
</tr>
<tr>
<td>BMI (kg/m2)</td>
<td>22.8±2.3</td>
<td>23.3±2.1</td>
<td>20.7±2.1</td>
<td>21.5±2.6</td>
<td>&gt;0.066</td>
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<tr>
<td>VO2max (ml/kg/min)</td>
<td>34.7±8.3*</td>
<td>55.2±5.4*</td>
<td>26.4±5.6*</td>
<td>44.7±4.3*</td>
<td>**&lt;0.001</td>
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<tr>
<td>FEV1 (%)</td>
<td>70.7±20.72</td>
<td>62.17±15.59</td>
<td>0.086</td>
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</tbody>
</table>

Conclusions:
Opposite results found for αKL levels between men and women could be explained by possible relations between αKL and sex hormones previously described in the literature.
αKL levels and VO2max are inversely correlated between patients with CF and healthy subjects. We hypothesize the higher αKL levels in CF patients with worse physical condition may be due to higher chronic inflammatory state that activates processes regulated by anti-inflammatory proteins, αKL being one of them.