Table 1 Demographic Characteristics in Children at baseline

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Characteristic | OSAS  （n=83） | Normal （n=83） | P-value | Mild-OSAS  (n=53) | Moderate-OSAS  (n=11) | Severe-OSAS  (n=19) | P-value |
| Age（Year） | 7±2.7 | 6.8±3.5 | 0.425 | 6.9±2.5 | 7.6±2.8 | 6.8±3.2 | 0.631 |
| Sex（Male/Female） | 54/29 | 54/29 | - | 31/22 | 7/4 | 16/3 | 0.130 |
| BMI（kg/m2） | 17.1±3.3 | 16.9±3.4 | 0.656 | 16.5±3.0 | 17.7±3.6 | 18.2±3.8 | 0.306 |
| Course of disease(Month) | 27.5±29.1 | - | - | 28.9±29.8 | 29.2±35.3 | 22.6±23.8 | 0.740 |
| Tonsils size(I/II/III) | 8/39/36 | - | - | 4/24/25 | 2/7/2 | 2/8/9 | 0.358 |
| Adenoid size(A/N) | 0.7±0.1 | - | - | 0.7±0.1 | 0.7±0.1 | 0.7±0.1 | 0.527 |
| OAHI | 7.9±8.4 | - | - | 3.8±2.4 | 5.6±4.0 | 13.5±11.0 | **＜0.001\*** |
| LoSpO2% | 89.6±4.5 | - | - | 91.4±3.2 | 89.9±2.0 | 84.3.±5.3 | **＜0.001\*** |

Age,Year; Sex,Male/Female；BMI：body mass index.；Course of disease, Month；Tonsils size：Degree of I-IV; Normal：control group; OAHI: obstructive apnea hypopnea index;LoSpO2% :lowest oxyhemoglobin saturation by pulse oximetry

Table 2 Inflammatory markers in Children with and without OSAS

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | OSAS（n=83） | |  | Normal（n=83） | | P-value |
| M | P25~P75 |  | M | P25~P75 |
| **YKL-40(ng/ml)** | 29.28 | 22.98~39.32 |  | 25.13 | 20.79~32.84 | **0.027\*** |
| CRP（mg/l） | 0.19 | 0~1.39 |  | 0.03 | 0.01~0.31 | 0.566 |
| **IL-6(pg/ml)** | 1.91 | 0~2.63 |  | 0.00 | 0~1.73 | **0.002\*\*** |
| TNF-α（pg/ml） | 830.22 | 616.20~996.52 |  | 813.46 | 626.5~ 975.72 | 0.761 |
| **IL-8（pg/ml）** | 66.65 | 40.19~121.42 |  | 28.29 | 15.21~56.79 | **＜0.001\*\*\*** |
| **IL-10（pg/ml）** | 7.075 | 2.48~12.79 |  | 4.86 | 0~8.53 | **0.008\*\*** |
| M: median(IQR); P25~P75: M(P25,P75) | | | | | | |

Table 3 Inflammatory markers in subgroups of OSAS

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Characteristic | Mild-OSAS(n=53) | |  | Moderate-OSAS(n=11) | |  | Severe-OSAS(n=19) | | P-value |
| M | P25~P75 |  | M | P25~P75 |  | M | P25~P75 |
| YKL-40(ng/ml) | 28.41 | 22.77~36.44 |  | 31.53 | 27.37~36.97 |  | 37.87 | 23.85~44.4 | 0.267 |
| **CRP（mg/l）** | 0.00 | 0.00~1.01 |  | 1.13 | 0.19~1.52 |  | 1.30 | 0.16~1.72 | **＜0.001\*\*\*** |
| **IL-6(pg/ml)** | 0.435 | 0.00~2.17 |  | 2.63 | 2.05~3.38 |  | 2.24 | 1.74~2.61 | **＜0.001\*\*\*** |
| TNF-α（pg/ml） | 857.77 | 693.7~985.58 |  | 775.92 | 93.17~1058.51 |  | 1032.69 | 899.63~1121.34 | 0.053 |
| IL-8（pg/ml） | 68.22 | 42.405~115.12 |  | 54.14 | 28.87~113.99 |  | 71.51 | 45.27~148.06 | 0.757 |
| IL-10（pg/ml） | 8.36 | 3.36~12.55 |  | 6.57 | 1.99~15.12 |  | 5.75 | 0~13.98 | 0.872 |
| M: median(IQR); P25~P75: M(P25,P75) | | | | | | | | | |

Table 4Correlation between the inflammatory factors and the baseline data

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Course of disease（Month） | Tonsils size(I/II/III) | Adenoid size(A/N) | OAHI | LoSpO2 |
|  | P-value | P-value | P-value | P-value | P-value |
| YKL-40 | 0.465 | 0.622 | 0.632 | **0.038\*(r=0.295)** | **0.018\*(r=-0.33)** |
| CRP | 0.594 | 0.566 | 0.154 | 0.107 | 0.066 |
| IL-6 | 0.607 | 0.154 | 0.993 | 0.619 | 0.481 |
| TNF-α | 0.878 | 0.751 | 0.614 | 0.287 | 0.629 |
| IL-8 | 0.051 | 0.770 | 0.296 | **0.043\*(r=0.287)** | 0.299 |
| IL-10 | 0.431 | 0.350 | 0.382 | 0.353 | **0.006\*\*(r=0.289)** |

OAHI: obstructive apnea hypopnea index;LoSpO2% :lowest oxyhemoglobin saturation by pulse oximetry

Table5 Information of ROC

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | cut-off value | Sensitivity | Specificity | Precision | Positive predictive value |
| YKL40 | 25.78 | 0.66 | 0.76 | 0.71 | 0.733 | |
| IL-6 | 1.49 | 0.72 | 0.62 | 0.67 | 0.652 | |
| IL-8 | 45.65 | 0.78 | 0.71 | 0.75 | 0.730 | |
| IL-10 | 9.60 | 0.82 | 0.42 | 0.62 | 0.586 | |