Table 1 Characteristics for participants

|  |  |  |  |
| --- | --- | --- | --- |
|  | BPH | PCa | Normal |
| N | 46 | 39 | 50 |
| Age | 65.63 ±1.07 | 68.82 ±1.23 | 56.06 ±1.39\*\*## |
|
| PSA | 9.68 ±0.95 | 15.60 ±1.66\*\* | - |
| Gleason’s Score | - | 7.31±0.18 | - |

P\*\*<0.01, Compared with BPH individuals; P##<0.01, Compared with PCa individuals. One-way Anova analysis

Table 2 ROC analysis for individuals using MET panel and PSA level

|  |
| --- |
| Area Under the Curve |
| Test Result Variable(s) | Area | Std. Error | Sig. | Asymptotic 95% Confidence Interval |
| Lower Bound | Upper Bound |
| dMePE(18:0/18:2) | 0.328 | 0.058 | 0.007 | 0.215 | 0.442 |
| PC(16:0/20:2) | 0.371 | 0.061 | 0.041 | 0.251 | 0.491 |
| PS(15:0/18:2) | 0.361 | 0.060 | 0.028 | 0.244 | 0.478 |
| SM(d16:0/24:1) | 0.290 | 0.057 | 0.001 | 0.179 | 0.402 |
| Carnitine C14:0 | 0.669 | 0.059 | 0.007 | 0.554 | 0.785 |
| PSA | 0.712 | 0.057 | 0.001 | 0.602 | 0.823 |
| MET | 0.823 | 0.046 | <0.001 | 0.733 | 0.914 |
|  |  |  |  |  |  |

|  |
| --- |
| Area Under the Curve |
| Test Result Variable(s) | Area | Std. Error | Sig. | Asymptotic 95% Confidence Interval |
| Lower Bound | Upper Bound |
| PSA<20 ng/μl |  |  |  |  |  |
| PSA | 0.656 | 0.067 | 0.027 | 0.525 | 0.787 |
| MET | 0.836 | 0.050 | <0.001 | 0.737 | 0.934 |
| METPSA | 0.855 | 0.048 | <0.001 | 0.761 | 0.950 |
| 4ng/μl<PSA<10 ng/μl |  |  |  |  |  |
| PSA | 0.519 | 0.101 | 0.851 | 0.322 | 0.717 |
| MET | 0.909 | 0.060 | <0.001 | 0.792 | 1.000 |
| METPSA | 0.925 | 0.046 | <0.001 | 0.836 | 1.000 |

Table 3 ROC analysis for individuals with different PSA levels using MET panel and PSA

Table 4 ROC analysis for individuals in validation group

|  |
| --- |
| Area Under the Curve |
|  | Area | Std. Error | Sig. | Asymptotic 95% Confidence Interval |
| Groups | Lower Bound | Upper Bound |
| BPH+NORM VS. PCa | 0.823 | 0.037 | <0.001 | 0.750 | 0.896 |
| NORM VS. PCa | 0.823 | 0.045 | <0.001 | 0.735 | 0.911 |