**Supplementary Table 1. Comparative data for patients with WD-ALF and ALF from others**

|  |  |  |  |
| --- | --- | --- | --- |
| **Parameters** |  **WD-ALF** |  **Indeterminate ALF** |  **ALF from others** |
|  **(N=15)** |  **(N=9)** |  **(N=61)** |
| Age (year)Female (%)Zn (μmol/L) Corrected Zn (μmol/L) Copper (μmol/L) Free copper (μmol/L) ALP (IU/L) Low ALP for age (N)Albumin (g/L)TB (μmol/L)AST (IU/L)ALT (IU/L)AST to ALTAST to ALT > 2 (N)AST to ALT > 4 (N) |  13.2 (7.7-16.0) 5 (33.3%) 5.8 (4.1-8.3) (N=8) 7.3 (5.2-11.6) 14.5 (4.5-36.3) 7.92 (3.08-31.58) (N=13) 92 (19-1120) 10 22 (19-35) 57 (19-625) 132 (39-403) 54 (11-190) 2.83 (0.68-12.36) 10 4 |  7.6 (1.0-12.2)\* 1 (11%) 9.8 (7.0-12.1)† 11.4 (7.6-17.8)\* 18.1 (11.4-36.7) 6.41 (3.38-23.48) 345 (159-758)\* 0\* 36 (25-41)\* 282 (48-448)\* 2778 (2039-6637)† 2744 (1816-2857)\* 1.05 (0.74-1.53)† 0\* 0\* |  6 (1.1-16.6)\* 24 (39%) - - - - 255 (102-1286)\* 2† 34 (19-41)\* 150 (6-844) 1421 (34-11303)† 974 (8-7833)† 1.37 (0.18-7.30)\* 19\* 7 |

Value = Median (range)

\* P < 0.05 vs WD-ALF, †P < 0.001 vs WD-ALF

**Supplementary Table 2. The Diagnostic Value of 3 Parameters in the diagnostic score published by**

**Ferenci *et al.***

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter** | **Cut-off** | **sensitivity** | **specificity** | **PPV** | **NPV** | **Accuracy** | **AUC (95%CI)** |
| Liver copper (μg/g dry weight)Basal urine copper (μg/day)Urine copper post PCT (μg/day)Ceruloplasmin (g/L) | >50>120>250>0.5>0.6>1.6>2.0>3.0>5>8>15>25<0.1<0.15<0.2<0.25 | μ93.9%86.8%76.3%100%95.5%81.8%77.3%59.1%83.8%81.1%56.8%37.8%53.5%74.4%90.7%97.7% | 71.5%87.4%97.7%49.3%55.6%91.8%95.2%96.6%19.0%40.5%83.6%99.5%100%96.4%79.5%37.4% | 47.0%75.0%93.5%17.3%18.6%51.4%63.0%65.0%16.4%20.5%39.6%93.3%100%76.2%40.6%19.4% | 97.8%93.8%90.4%100%99.1%97.9%97.5%95.7%86.0%91.9%91.1%89.4%93.3%93.5%81.5%45.5% | 76.3%87.2%91.2%54.1%59.4%90.8%93.4%93.0%29.3%47.0%79.3%89.7%93.8%93.5%81.5%45.5% | 0.931 (0.869-0.992)0.939 (0.888-0.990)0.726 (0.613-0.838)0.935 (0.884-0.986) |

**Supplemantary table 3. Data of false-positive and false-negative results among the study population**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Case** | **Sex** | **Age at****diagnosis****(years)** | **Diagnosis** | **Liver Cu** **(μg/g dry****liver)** | **Basal urine****Cu (μmol/****day)** | **Urine Cu****post PCT****(μmol/day)** | **CP****(g/L)** | **KF****rings** | **Neuro****Symp** | **Zn****(μmol/L)** | **ALP****(IU/L)** | **AST to** **ALT****≥ 2** | **Diagnostic****score by****Ferenci *et al*****(marks)** | **Proposed WD****diagnostic** **Score (marks)** |
| **Patients with false negative results** |
|  1 2 3 4 5 6 7 8 9 | FFFMFMFMF | 1.644.509.5011.2311.9613.0413.4314.5715.89 | WD-non-ALFWD-non-ALFWD-ALFWD-ALFWD-non-ALFWD-ALFWD-non-ALFWD-ALFWD-ALF | 51338--7-875-- | -0.716.7--5.80.530.9- | -4.698.7-0.919.22.467.768.6 | 0.110.170.130.200.050.100.110.170.16 | NNNNNNNNN | NNNNNNNNN | --4.9-11.94.1--6.5 | 3572822317418952216819 | NNYYNNNYY | 323113333 | 335233345 |
| **Patients with false positive results** |
|  1 2 3 4 5 6 7891011 | FFFFMMMFFMM | 8.698.8713.2113.7313.7713.8014.7915.4115.4515.7316.76 | AIHAIHAIHAIHAIH type IAIHAIHAIH type IAIH AIH type IAIH | 2474019777-531076652196108 | 0.60.82.30.70.51.41.61.50.10.21.6 | 11.2512.421.6915.317.622.116.611.758.69 | 0.190.290.160.120.170.150.170.150.150.160.20 | NNNNNNNNNNN | NNNNNNNNNNN | -----12.9-8.4-9.5- | 4322771164381912341355220235970242 | NYNNNNNNNNN | 44444\*444444 | 33433\*333333 |

\* One mark from positive Rhodanine staining

\*\* All has negative results from the Coomb’s negative hemolysis