NORMAL VALUES OF STANDARD FULL FIELD ELECTRORETINOGRAPHY AND VISUAL EVOKED POTENTIAL IN INDONESIAN ADULTS

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PURPOSE

Following ISCEV recommendation that each laboratory should have its own normal values of full field electroretinography (ff-ERG) and visual evoked potential (VEP), the purpose of this study is to establish normal values of Indonesian adult population with Metrovision Electroretinogram that will be applied for our new laboratory.

METHOD

Fifty eight normal eyes from Indonesian subjects with age between 19 and 49 years old were selected. ERG amplitudes and implicit time values also latency and amplitude of VEP were measured according to recommendations by the International Society for Clinical Electrophysiology of Vision (ISCEV). Evaluation consisted of scotopic 0.01 ERG, scotopic 3.0 ERG, scotopic 3.0, Oscillatory potential ERG and photopic, 3.0 flicker. For VEP recording was done in 15 arc and 60 arc.

RESULTS

Mean scotopic 0.01 b-wave amplitude was 285 µV and b-wave implicit time was 77 ms. Mean scotopic 3.0 a-wave amplitude was -285 µV, a-wave implicit time was 24 ms, b-wave amplitude was 297 µV and b-wave implicit time was 46 ms. Mean scotopic 3.0 OP-wave sum amplitude was 343 µV and OP1-wave implicit time was 21 ms. Mean photopic 3.0 flicker b-wave amplitude was 46 µV and b-wave implicit time was 29 ms. For the VEP result latency in male subject was 108.0 ± 5.9 and 107.4 ± 5.4 for female. The amplitude was 14 for male and 18.7 in female.

| Table 2. Comparison between VEP latency and amplitude of P100 based on gender |
|-------------------|-------------------|-------------------|-------------------|-------------------|
| Latency           | Male              | Female            | Male              | Female            |
| 15 min arc        | 108.0 ± 5.9       | 107.4 ± 5.4       | 14 (0.5–2.8)      | 18.7 (5.4–36.5)   |
| 60 min arc        | 103.1 ± 5.7       | 102.1 ± 4.7       | 10.6 (1.6–19.9)   | 12 (4.1–26.4)     |

CONCLUSION

Our results may serve as a reference for normal values of standard full field electroretinography using Dencott electrode and pattern VEP in Indonesian adults’ population.