Paternity Index Analysis on Disputed Paternity Cases at Sardjito Hospital Yogyakarta, Indonesia

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Abstract : Introduction: The examination of the Short Tandem Repeats (STR) locus on nuclear DNA is very useful in solving the paternity cases. The purpose of this study is to know the description of paternity cases and paternity index/probability of paternity analysis based on Indonesian allele frequency at Sardjito Hospital Yogyakarta. Method: This was an observational study with cross-sectional analytic method. Population and sample were all cases of disputed paternity from January 2011 to June 2015 that fulfill the inclusion and exclusion criteria and were examined at Forensic Medicine Unit of Sardjito Hospital, Medical Faculty of Gadjah Mada University. The paternity index was calculated with EasyDNA Program by Fung (2013). Analysis of the study was conducted by comparing the results through unpaired categorical test using Kolmogorov-Smirnov test. This study was designed with 95% confidence interval (CI) with α = 5% and significance level is $p < 0,05$. Results: From 42 disputed paternity cases we obtained trio paternity cases were 32 cases (76.2%) and duo without a mother was 10 cases (23.8%). The majority of the fathers' estimated ages were 21-30 years (33.3%) and the mother's age was 31-40 years (38.1%). The majority of the ages of children examined for paternity were under 12 months (47.6%). The majority of ethnic clients are Javanese. Conclusion of inclusion was 57.1%, and exclusion was 42.9%. The Kolmogorov-Smirnov test obtained p-value = 0.673. Conclusion: There is no significant difference between paternity index/probability of paternity based on Indonesian allele frequency between trio and duo of paternity.

Keywords : disputed paternity, paternity index, probability of paternity, short tandem