Serum Phylloquinone Concentrations in a Normal Population of Children as Compared with the Reference Interval in Adults, Willy E. Lambert, Luc Bicêtre, André P. De Leenheer (Lab. voor Med. Biochem. en voor Klin. Anal., Harelbekestraat, 72 B-9000 Gent, Belgium), and Olivier Amédée-Manesme (INSERM, U56 et Dépt. de Pédriatrie, Hôpital de Bicêtre, 78, rue du Général-Leclerc, 94275 Le Kremlin-Bicêtre, France)

In numerous clinical situations—e.g., chronic diarrhea, chronic cholestasis, and cystic fibrosis—phyloquinone (vitamin K\textsubscript{1(200)}) absorption can be disturbed, in children as well as in adults. The reference interval for phylloquinone in serum of human adults has been described (1–4), but little is known about the reference interval for K\textsubscript{1(200)} in serum of healthy children. We measured it in serum of 96 healthy children (40 girls, 56 boys), ages between two months and 19 years. All were Europeans, from various social levels. The children were introduced in the study at the time of a consultation in the Department of Pediatrics of the Hôpital Bicêtre (Paris): consultation in a clinical evaluation before anesthesia for amygdalectomy or for minor surgery such as urethral malformation. In all subjects, coagulation, blood count, and results of liver tests were within normal limits. For quantitative analysis of phylloquinone in the serum samples we used a previously described HPLC procedure (3, 5).

The vitamin K\textsubscript{1(200)} values in the children did not follow a gaussian distribution, but an apparent log-normal distribution was confirmed by the Kolmogorov–Smirnov test.

Figure 1 gives the frequency distributions of the values for vitamin K\textsubscript{1(200)}. The mean value was 337 ng/L. However, with this type of skewed distribution the logarithmic mean is a better parameter. The logarithmic mean for the 96 children was 236 ng/L and the reference interval ranged from 44 to 1272 ng/L, [log x ± 2 SD (log x)]. The lowest and highest observed values were 30 and 2075 ng/L, respectively. The logarithmic mean for 40 girls was 227 (40 to 1291 ng/L) and for the 56 boys 242 (46 to 1275 ng/L), both [log x ± 2 SD (log x)]. Analysis of these data indicated no age- or sex-related differences.

Finally, we compared the reference interval as obtained for the healthy children population with the reference interval in healthy adults (3). For 50 healthy adults a log-normal distribution also was confirmed, with a logarithmic mean of 247 ng/L (range, 62 to 980 ng/L). For the adult population, the lowest and highest values were 63 and 1035 ng/L, respectively. The logarithmic mean for the 29 adult men was 258 (67–969 ng/L) and for 21 adult women 233 (54–994 ng/L), both [log x ± 2 SD (log x)]. Also in adults, no age- or sex-related correlation could be demonstrated for serum vitamin K\textsubscript{1(200)}. Indeed, there was no significant difference between the values for children and for adults. The significant F\textsubscript{0.05}-value for 1 and 144 degrees of freedom, for numerator and denominator, respectively, is 3.90; we obtained an F-value of 0.116.

References


Confusion of Apolipoprotein E Phenotyping by Serum Amyloid A, A. Steinmetz, R. Saile, M. Sefrouhi, H. J. Parra, and J. C. Fruchart (Service de Recherche sur les Lipoprotéines et l’Athérosclérose (SERLIA), Institut Pasteur de Lille, 1, rue du Professeur Calmette, 59019 Lille Cédex, France)

Serum amyloid A (SAA) is an acute-phase reactant mainly associated with high-density lipoproteins (1) but also with very-low-density lipoproteins (VLDLs) or low-density lipoproteins (2). On isofoctocusing, plasma SAA exhibits mainly two isofoms, SAA\textsubscript{1} and SAA\textsubscript{2}. They differ in only one amino acid; SAA\textsubscript{2} lacks the N-terminal arginine (3).