Sonographic assessment of abdominal fat distribution during the first year of infancy.

Abstract:
Longitudinal data regarding the fat distribution in the early postnatal period is sparse. We performed ultrasonography (US) as a noninvasive approach to investigate the development of abdominal subcutaneous (SC) and preperitoneal (PP) fat depots in infants ≤1 y and compared longitudinal US data with skinfold thickness (SFT) measurements and anthropometry in 162 healthy children at 6 wk, 4 mo, and 1 y postpartum. US was found to be a reproducible method for the quantification of abdominal SC and PP adipose tissue (AT) in this age group. Thickness of SC fat layers significantly increased from 6 wk to 4 mo and decreased at 1 y postpartum, whereas PP fat layers continuously increased. Girls had a significantly higher SC fat mass compared to boys, while there was no sex-specific difference in PP fat thickness. SC fat layer was strongly correlated with SFT measurements, while PP fat tissue was only weakly correlated with anthropometric measures. US is a feasible and reproducible method for the quantification of abdominal fat mass in infants ≤1 y of age. PP and SC fat depots develop differentially during the first year of life.

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