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COMMENTARY

Fat Absorption in Newborns

Commentary on the article by Rings *et al.* on page 57

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The increase in fat absorption during early neonatal life has for many years been generally assumed to relate to luminal factors such as lipase activity and changes in the content and composition of the bile acid pool required for effective formation of lipid micelles. A variety of other luminal factors such as triglyceride structure and calcium salt formation appear to interact with individual fatty acids affecting the amount of fat not absorbed and thus excreted in the stool (1).

The manuscript by Rings *et al*. raises a new perspective on the process of fat absorption that is of seminal importance (2). The observations made by these authors suggest that improved fat absorption during neonatal development may arise as a consequence of maturation of the processing of fatty acid transported into the enterocyte. This functional change in capacity of transport and or the processing of fatty acid from the apical to the serosal side of the cell may arise due to adapative change in fatty acid transporters, reacylation reactions, or the assembly and secretion of chylomicrons. This increase (or perhaps decrease) in fat absorption is due to transitions in the expression of functions of a wide variety of mechanisms within the enterocyte and raises significant questions of how adaptive changes that affect fat absorption occur within the enterocyte. These changes could be a developmental increase in capacity as in the neonate or perhaps subject to decline in old age or specific disease states and likely also subject to induction by dietary intake.

The observations by Rings *et al*. (2) raise the interesting notion that there are limiting functions in the enterocyte previously assumed to be passive, that impact or limit the postprandial response to dietary fat and are related to a variety of interorgan pathways of lipid transport and major disease associated processes (*e.g.*, Clearance of lipoprotein remnant particles). Thus, it is likely that the observations of Rings *et al*. (2) and further investigation of enterocyte functions responsible for processing of dietary fats will lead to a broad impact on our understanding of the implications of changes in fat absorption during more than just the neonatal period of life.

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