

Taurine: an overview of its role in preventive medicine.

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Source

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Abstract

Taurine (2-aminoethanesulfonic acid), well known for its role in bile salt synthesis, is also involved in a number of crucial physiological processes including modulation of calcium flux and neuronal excitability, osmoregulation, detoxification, and membrane stabilization. With the exception of cow's milk, taurine is widely distributed in foods from many animal, but not plant, sources. Although taurine is synthesized from sulfur-containing amino acids, concern has been expressed about the adequacy of endogenous sources, especially in neonates. Accordingly, proprietary milk formulas are now supplemented with taurine. Retinal dysfunction occurs in taurine-deficient animals. A milder form of this condition has been observed in children on long-term total parenteral nutrition. Preliminary evidence suggests a possible role for taurine administration in congestive heart disease, acute hepatitis, cystic fibrosis, and myotonia. Further studies are required before taurine can be routinely advocated for use in these and other disorders. Recent discoveries concerning taurine's role in cellular proliferation and membrane protection underscore its physiological significance. In this context, taurine's interaction with other nutrients, biochemicals, and xenobiotics warrants extensive exploration. As a conditionally essential nutrient, taurine has several important preventive medical applications.

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