Lecithin

For decades, lecithin has been a popular treatment for high cholesterol (although there is surprisingly little evidence that it works). More recently, lecithin has been proposed as a remedy for various psychological and neurological diseases, such as Tourette's syndrome, Alzheimer's disease, and bipolar disorder (also known as manic depression).

Lecithin contains a substance called phosphatidylcholine (PC) that is presumed to be responsible for its medicinal effects. Phosphatidylcholine is a major part of the membranes surrounding our cells. However, when you consume this substance it is broken down into the nutrient choline rather than being carried directly to cell membranes. Choline acts like folate, TMG (trimethylglycine), and SAMe (S-adenosylmethionine) to promote methylation. (See the article on TMG for further discussion of this subject.) It is also used to make acetylcholine, a nerve chemical essential for proper brain function.

This article discusses lecithin and phosphatidylcholine. For more information on the effects and possible benefits of Choline alone, see the full article on that subject.

Sources

Neither lecithin nor its ingredient phosphatidylcholine is an essential nutrient; however, choline has recently been recognized as essential. For use as a supplement or a food additive, lecithin is often manufactured from soy.

Therapeutic Dosages

Ordinary lecithin contains about 10% to 20% phosphatidylcholine. However, European research has tended to use products concentrated to contain 90% phosphatidylcholine in lecithin, and the following dosages are based on that type of product. For psychological and neurological conditions, doses as high as 5 to 10 g taken three times daily have been used in studies. For liver disease, a typical dose is 350 to 500 mg taken three times daily; for high cholesterol, 500 to 900 mg taken three times daily has been tried.
**Therapeutic Uses**

For a while, lecithin/phosphatidylcholine was one of the most commonly recommended natural treatments for high cholesterol. However, this idea appears to rest entirely on studies of unacceptably low quality.\(^{2,25-28}\) The best designed studies have failed to find any evidence of benefit.\(^{2,25-28}\)

In Europe, phosphatidylcholine is also used to treat liver diseases, such as alcoholic fatty liver, alcoholic hepatitis, liver cirrhosis, and viral hepatitis. However, research into these potential uses remains preliminary and has yielded contradictory results.\(^{3,25-28}\) Lecithin may help to prevent the development of gallstones.\(^{32}\)

Researchers have recently become interested in the use of phosphatidylcholine as a supportive treatment in severe ulcerative colitis. There may be an insufficient quantity of phosphatidylcholine in the mucus lining the colon in patients with ulcerative colitis. Taking phosphatidylcholine may correct this deficiency. A small double-blind, placebo controlled study of 60 patients whose ulcerative colitis was poorly responsive to corticosteroids were randomized to receive either phosphatidylcholine (2 g per day) or placebo for 12 weeks.\(^{31}\) Half of the participants taking phosphatidylcholine showed a significant improvement in symptoms versus only 10% taking placebo. Moreover, 80% taking phosphatidylcholine were able to completely discontinue their corticosteroids without disease flare-up compared to 10% taking placebo. Along the same line, a study involving 60 people with ulcerative colitis found phosphatidylcholine to be effective in reducing the need for corticosteroids.\(^{35}\) Doses of 3 to 4 g seems to be the most helpful for achieving remission.\(^{33}\)

Some evidence hints that phosphatidylcholine may reduce homocysteine levels, which in turn was for a time thought likely to reduce heart disease risk.\(^{29}\)

Because phosphatidylcholine plays a role in nerve function, it has also been suggested as a treatment for various psychological and neurological disorders, such as Alzheimer's disease, bipolar disorder, Parkinson's disease, Tourette's syndrome, and tardive dyskinesia (a late-developing side effect of drugs used for psychosis). However, the evidence that it works is limited to small studies with conflicting results.\(^{15-24,30}\)

Lipolysis involves the removal of unwanted fat cells by injecting phosphatidylcholine and another substance (sodium deoxycholate) into the fat. Phosphatidylcholine appears to be effective for this purpose.\(^{34}\)

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**Safety Issues**

Lecithin is believed to be generally safe. However, some people taking high dosages (several grams daily) experience minor but annoying side effects, such as abdominal discomfort, diarrhea, and nausea. Maximum safe dosages for young children, pregnant or nursing women, or those with severe liver or kidney disease have not been determined.

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**References**


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