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PLX Phospholipid Exchange Therapy

Chemicals such as pesticides, preservatives and even some medical drugs can be stored in body fat for long periods, and continue to interfere with functioning, most notably of the brain and nervous system and the immune system. They can only be excreted from the body by two routes: via the liver into bile, which then enters the gut, or via sweat (the only other route, which is no solution, is in breast milk).

Lipid Exchange is a technique that has been practised for some decades, especially in Eastern Europe, using an oily product derived from soya (brand-names Lipostabil and Essentiale), which can be given by intravenous injection or by mouth. There is an extensive literature on its safety and efficacy in a wide range of disorders including neurodegenerative diseases, cardiovascular disease, liver damage, kidney failure, and autoimmune diseases. Like many such therapies, it was never taken up very much by medicine in Western Europe or the USA, although in recent years drug-development scientists have again been very interested in its use as a delivery system for drugs — a means of getting them rapidly into cells.

However one group in the USA saw the potential of PLX in a range of disorders, and have developed it further into an effective means of detoxifying the cell membrane. This is dramatically important in modern times, because the major groups of toxins —

- organophosphate and organochlorine pesticides
- related chemicals such as fire-retardants (PCBs, PBBs)
- heavy metals such as lead, mercury etc

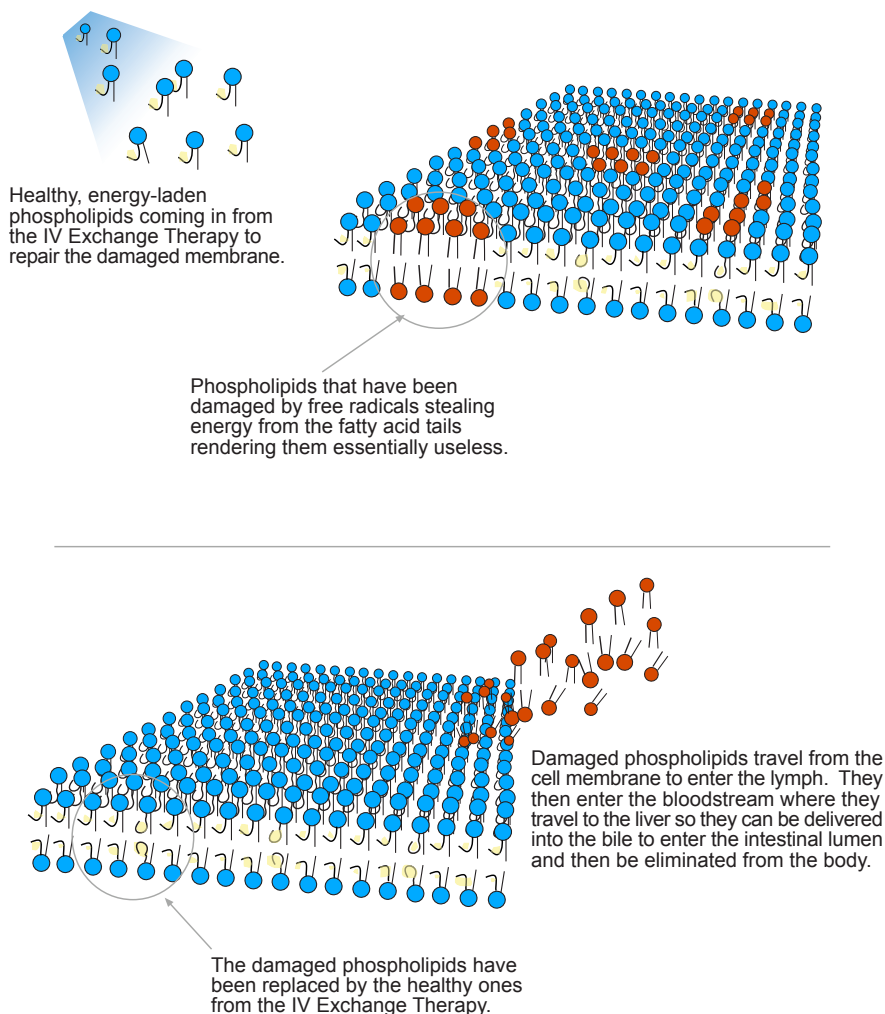
— are all fat-soluble, and end up either inside fat cells or in cell membranes, where they disrupt the very processes of life. Inside fat cells they are in fact relatively inert and thus safe, since this is a storage facility; it is in the membranes that they do damage.

All membranes in our bodies, indeed in all life, are made up of two layers of oil molecules (the phospho-lipid bilayer) which slide over each other, and which require a precise composition in order to function properly — to allow signals or molecules into or out of the cell, to keep them out etc. This is the reason why too much animal fats or processed fats can be bad for us, and why the “Essential Fatty Acids” are essential.

The first active ingredient of the treatment is phospholipids, oils, in the form in which they occur in the membranes. When this is injected intravenously there is a rapid exchange, the injected lipids being put into the cell walls to replace the ones there being taken out, and with the lipids coming out of the cell wall there also come some of the toxins. The literature suggests that at least 5% of total cell lipids can be turned over by one treatment.

The second ingredient of the treatment is glutathione. This amino acid is an important antioxidant and a key component of liver detoxifying systems. It is also what the herbalists refer to as a cholagogue; it stimulates bile production. It is given as a second injection through the same needle, with the purpose of mopping up in the bloodstream the toxins that are released by the phospholipid membranes, combining with them and being excreted still attached to them. It also serves to stimulate bile flow, and in the bowel to keep the toxins from being re-absorbed into the system. I and many others have used glutathione intravenously for some years and I have never seen an adverse reaction, even with the large 2 gram doses used in PLX.

The Effect of IV Phospholipid Exchange Therapy



The combination of these two agents amounts to a new treatment, but there is very good evidence of safety for each component, and the American group have given thousands of such combined treatments, with no serious adverse effects, and often with dramatic benefits. Their major focus has been on neurotoxic diseases, ranging from Multiple Sclerosis, Parkinson's and Amyotrophic Lateral Sclerosis through Alzheimer's to Autism. They also report good results in Chronic Fatigue Syndrome and Fibromyalgia, Lyme disease and other chronic infections, and in Rheumatoid Arthritis. The earlier, Eastern European research also reports beneficial results in cardiovascular disease, other auto-immune diseases, severe liver and kidney problems and other severe infections.

While we make no medicinal claim for this treatment, we propose to offer it primarily to people with either demonstrated chemical toxicity — where it clearly can help in removal of toxins — or those with other problems of detoxification and excretion, such as Gilbert's syndrome where the liver's detoxing capacity is reduced.

Abstracts of some key references

[Lipids in drugs]

Shvets, VI and Krasnopol'ski, IuM. Vestn Akad Med Nauk SSSR :6, 19-28 (1990)

Data on the use of phospho- and glycolipids in drugs with various action targets are analysed. The issues include the use of lipids in parenteral emulsions. Essentiale-type++ preparations, and lipid adjuvants. Special emphasis is given to the transport and reconstructive functions of lipids. The drug-contained lipids were found to have a high biological activity, no allergy-inducing reactions, and a high biological degradability. The analysed evidence confirms the expediency of using drugs containing lipids of different chemical structures for medicinal purposes.

[Absorption of di-linoleoylphosphatidylcholine after oral administration] Oette, K, Kühn, G, Römer, A, Niemann, R, Gundermann, KJ and Schumacher, R. Arzneimittelforschung 45:8, 875-9 (1995)

Institut für Klinische Chemie der Universität zu Köln.

Essentiale and Lipostabil contain "essential" phospholipids from the soybean, mainly 1,2-dilinoleoyl-phosphatidylcholine (CAS 998-06-1, DLPC) which is considered as the main active ingredient. A single oral dose of d15-DLPC loaded with deuterium 9 times in the choline and 6 times in the linoleic acid of the 1-position was given to volunteers. Sera from 11 blood samples taken within 48 h after application were examined by means of mass spectrometry with regard to d9-choline and d6-linoleic acid in the 1- and 2-position of serum phosphatidylcholines (PC) as well as in the serum triglycerides. d9-choline, i.e. the total of d15-PC and d9-PC, showed maximum values of 5.6% of the total serum PC concentration. Normally, about 1.3% of PC in the human serum is DLPC. Serum 1-linoleoyl-PC was increased by 32-40% after oral application of d15-DLPC. A minor uptake of d6-linoleic acid into the 2-position of serum PC, which is rich in linoleic acid, and into the serum triglycerides was observed with peak values of 2.3% and 6.1%, resp. The uptake of polyunsaturated PC species like DLPC and 1-linoleoyl-PC into the liver after oral application of drugs containing such species in high amounts like "essential" phospholipids with about 50% of DLPC let expect therapeutic effects on membranes into which this special species is incorporated.

[Use of the preparation Essenciale in chronic ischemic heart disease]

Kukes, VG, Senik, EA, Gneushev, ET, Potekaeva, SA and Milovanova, NM. *Kardiologiya* 18:6, 79-82 (1978)

The efficacy of the drug "essenciale" is discussed on the basis of observation over 34 patients suffering from ischemic heart disease with functional hepatic insufficiency and types IIa and IIb hyperlipoproteinemia. Its normalizing effect on the indices of lipid metabolism the flow of blood in the leg and foot, the vascular tone, and liver function is shown.

Reduced intravenous glutathione in the treatment of early Parkinson's disease.

Sechi, G., et al. *Prog Neuropsychopharmacol Biol Psychiatry*. 20(7):1159-1170, 1996.

Several studies have demonstrated a deficiency in reduced glutathione (GSH) in the nigra of patients with Parkinson's Disease (PD). In particular, the magnitude of reduction in GSH seems to parallel the severity of the disease. This finding may indicate a means by which the nigra cells could be therapeutically supported. The authors studied the effects of GSH in nine patients with early, untreated PD. GSH was administered intravenously, 600 mg twice daily, for 30 days, in an open label fashion. Then, the drug was discontinued and a follow-up examination carried-out at 1-month interval for 2-4 months. Thereafter, the patients were treated with carbidopa-levodopa. The clinical disability was assessed by using two different rating scale and the Webster Step-Second Test at baseline and at 1-month interval for 4-6 months. All patients improved significantly after GSH therapy, with a 42% decline in disability. Once GSH was stopped the therapeutic effect lasted for 2-4 months. In untreated PD patients GSH has symptomatic efficacy and possibly retards the progression of the disease.

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