

Health & Mind

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Oils and Heart

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Dietary fat is closely associated with coronary artery disease. Oils is the important component of diet. Oil contains saturated fats, Transfats, cholesterol which are bad for the heart. It also contains poly unsaturated fats (pufa) & Mono unsaturated fats (mufa) which are good for the heart. Excessive use of oils containing mufa & pufa will cause obesity, since both have high calories. A healthy oil should be cholesterol, saturated fats and transfat free, and it should prevent the coronary artery disease. So choosing a Healthy oil is paramount important because we are confronted with so many brands oil in the market.

What is transfat?

It is a semisolid saturated fat (eg. ghee, vanaspathi). It is formed during the process of partial conversion of some of unsaturated fats into saturated fats. When the vegetable oil is converted into vanaspathi transfat is formed, and also when the oil is heated at high temperature it is formed. Transfat is present in the following foods.

1.Chocolate, 2.Cookies, 3.Pasteries, 4.Canned soups, 5.Icecreams, 6.Commerially available fried items, 7.Pizzas, 8.French fries, 9.All deep fried & packed items

What is smoke Point?

When the oil is heated to high temperature; decomposition occurs & Finally a point is reached, where fat is broken down into glycerol & free fatty acid. This produces Bluish smoke. This is called smoke point. More refined oil has high smoke point. The high smoke point oil are good for deep frying. Low smoke point oils should not be used for deep frying.

Which oil is good for heart?

Olive Oil is the best oil for the heart if the cost is not the factor or those who can afford. It is widely used in the Mediterranean region, where the incidence of coronary artery disease is very low. Scientists contribute olive oil use for the low incidence. It contains 75% Mufa and variety of anti oxidant. The oleic acid present in the olive oil reduces the bad cholesterol (LDL) and increases the good cholesterol (HDL). It exerts anti inflammatory & anti thrombotic effects. Virgin olive oil better than other olive oils.

Mustard Oil It is mainly used in North & East India. It is poor man's olive oil. It has 70% Mufa, 22% Pufa. It contains high level of omega 3 alpha linolenic acid and omega 6 linolenic acid. It also contains very low

level of saturated fats. It has high content of Anti oxidants and vitamin E. It is one of the healthiest oil for heart, if flavor is not the factor.

Rice Bran Oil It is extracted from the Germ and husk of the Rice. It has high smoke point (254°C used for deep frying.) and mild flavor. It is the popular cooking oil in Japan & China. It is the balanced oil 47% Mufa, 33% Pufa. 20% saturated fats) It has rich vitamin E. The major limitation of this oil is it contains 20% saturated fats.

GroundNut Oil Chinese, South East Asian countries use this oil. It has high smoke point and pleasant taste. It has high level of Mufa & Pufa little amount of saturated fats. This is one of the heart friendly oil which contains high level of Mufa and well balanced fats.

Sunflower Oil It is a good cooking oil for its good taste and low level of transfat. However, it contains high level of Pufa. High consumption of this can cause weight gain. It has very poor omega 3 and 6 ratio.

Saffola Oil It contains high pufa, low saturated fats, low Mufa it lowers Bad cholesterol (LDL) and also good cholesterol (HDL). It has high smoke point can be used for deep frying.

Corn Oil It is extracted from Germ of corn. Refined corn oil has 55% Pufa 30% Mufa 15%. Saturated fats. It has high smoke point excessive omega fatty acid relative to omega 3 fatty acid will lead to some diseases, and depression.

Coconut Oil This oil contains 90% saturated fat low levels & Mufa & Pufa and no cholesterol. It is not an heart friendly oil. It contains vitamin E, 2K and minerals such as Iron.

Palm oil It is extracted from the pulp of the fruit it is common cooking oil in Brazil, South East Asian countries & parts of Africa. It has high smoking point. Though palm oil may be high in saturated fats, the correlation between heart disease and palm oil is controversial. It increases LDL & Cholesterol.

Conclusion:

The Benefits and the harmful effects of various oils are discussed. Mustard oil, rape seed oil & olive oil are the most heart healthy oils. Their use decreases the incidence of coronary artery disease.

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Wernicke-Korsakoff syndrome

Wernicke encephalopathy and Korsakoff psychosis represent the acute and chronic phases of a single disease process –Wernicke-Korsakoff syndrome – which is caused by neuronal degeneration secondary to thiamine deficiency, most commonly seen in heavy drinkers.

Wernicke encephalopathy

Clinical features Acute onset of tetrad of: (1) acute confusional state; (2) ophthalmoplegia; (3) nystagmus; (4) ataxic gait. Associated features of

peripheral neuropathy, resting tachycardia, and evidence of nutritional deficiency. Ophthalmoplegia is most commonly 6th nerve palsy (paralysis of lateral gaze). The classical tetrad may not all be present in an undoubted case.

Aetiology Occurs secondary to thiamine (vitamin B1) deficiency. Heavy drinkers are especially vulnerable due to poor intake (alcohol is calorie rich but vitamin-poor), reduced absorption, and impaired hepatic storage. Other rare causes of thiamine deficiency are starvation, post-gastric resection, anorexia nervosa, and hyperemesis gravidarum.

Pathology Haemorrhages and secondary gliosis in periventricular and peri-aqueductal grey matter involving the mammillary bodies, hypothalamus, mediodorsal thalamic nucleus, colliculi and tegmentum of midbrain.

Treatment

- Give high potency parenteral B1 replacement – intravenous Pabrinex 2 ampoules twice daily by infusion over 30 minutes for 3-7 days. Specialist use (NB Associated with allergic reactions: facilities for treatment of anaphylaxis must be available.) Avoid carbohydrate load until thiamine replacement is complete. (i.e do not rehydrate with glucose solutions prior to thiamine)
- Treat immediately diagnosis is made or strongly suspected. In addition consider treating all those at high risk (alcohol-dependent patients with poor nutrition) prophylactically with parenteral vitamins.
- All patients with symptoms of Wernicke

encephalopathy and those at high risk should have parenteral vitamins as above. All other patients undergoing detox, or being assessed for alcohol problems should receive oral replacement – thiamine 100mg tds for one month.

- Assess and treat for alcohol withdrawal syndrome.

Prognosis

- Untreated the acute phase lasts – 2 weeks with 84% of cases developing features of Korsakoff psychosis. Mortality of – 15% in untreated cases.
- With treatment, the ophthalmoplegia and confusion resolve within days, but the ataxia, neuropathy, and nystagmus may be prolonged.

Korsakoff psychosis

Clinical features Absence or significant impairment in the ability to lay down new memories, together with a variable length of retrograde amnesia. Working memory (e.g. ability to remember a sequence of numbers) is unimpaired as is procedural and 'emotional' memory. Thus the affected individual may be able to go with a psychologist to an interview room, perform adequately on working memory testing, show evidence of a new skill (e.g. mirror writing) they practised the day before, and yet later have no memory of ever having been in that room, or having seen that psychologist before (although, on returning to the room, they may be more relaxed on subsequent occasions, due to state-related emotional memories.) Confabulation for the episodes of amnesia may be prominent.

Aetiology Most commonly due to thiamine deficiency secondary to heavy alcohol use. Rarer

causes are head injury, post-anaesthesia, basal/temporal lobe encephalitis, carbon monoxide poisoning, and thiamine deficiency secondary to other causes.

Pathology Pathological features are those of Wernicke encephalopathy. The presumed mechanism is disconnection of a mammillothalamic pathway crucial for memory formation.

Treatment

- Continue oral thiamine replacement for up to 2 years.

Prognosis

- 25% of cases show some degree of memory improvement over time with the remainder largely unchanged.
- The degree of functional impairment is directly related to the degree of memory impairment which may be incompatible with independent living.

Padma Clinic & Nursing Home

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Neurophysician and Neurosurgeon

(Deputy Dean and Vice Principal, SRM Medical College)

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Honours in recognition of his academic brilliance and for his exemplary contribution in the field of health care services.

Vice Chancellor Dr. Mayil Vahanan Natarajan and Dr.

Chinnadurai are seen in the picture.

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