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(ii) Glycolipids (cerebroside) :- These are sugar containing lipids. These consist of high mol. wt fatty acid, sphingosine and galactose. They occur in brain, adrenals, kidney, spleen, liver, leucocytes, thymus, lung, retina, egg-yolk and fish sperm.

(iii) Gangliosides :-

These contain N-acetylneuraminic acid (NANA) fatty acids, sphingosine, and 3 molecules of hexose (Glucose + galactose). These are found in significant concentrations in nerve and in certain selected tissues, notably spleen.

(iv) Lipoproteins :-

Protein molecules conjugated with triglycerides cholesterol or phospholipids are called lipoprotein.

Triglycerides derived from intestinal absorption of fat or from the liver are not transported in the free form in circulating blood plasma but move as Chylomicron, as very low density lipoprotein (VLDL) or as free fatty acid (FFA) albumin complex.

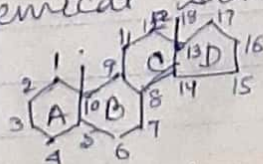
Lipoprotein also occurs in milk, egg-yolk and as cell components of cell membranes.

DERIVED LIPIDS :-

It includes the hydrolysis products of simple and compound lipids and also various other compounds such as steroids, terpenes, fatty acids, alcohols, fatty aldehydes, ketones etc.

(i) STEROIDS :-

The steroids are generally considered along with the lipids, although they differ completely in chemical structure.



Steroids

Steroids are one of the most studied classes of biological compounds. The steroids includes such substances as cholesterol and other sterols, the bile acids, the sex hormones and hormones of adrenal cortex.

(i) **Sterols**:- The common examples of these are cholesterol in animals; ergosterol and stigmasterol in plants. The important sterols are as follows;

(a) **CHOLESTEROL**:-

It is widely distributed in all cells of the body, being particularly abundant in brain and nervous tissue, in the adrenal glands and the skin. It is also found in egg-yolk and gall stones. In mammals, cholesterol function as a parent sterol, giving rise to vitamin D, bile acids, sex-hormones and adrenocorticotrophic hormone.

(b) **7-Dehydrocholesterol**:-

It is a provitamin occurring in the skin of mammals and is converted by ultraviolet light to antirachitic vitamin cholecalciferol (D₃).

(c) **Ergosterol**:-

It is found in ergot and moulds like yeast. It is precursor of another form of vitamin D, ergocalciferol (D₂).

(d) **Coprosterol**:- It is found in faeces. It is formed as a result of the reduction by bacteria in the intest of the double bond of cholesterol between C₅ and C₆.

