agMOOCs

Diseases of gall bladder

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Let us go back to our class again. So last class we have seen the liver disorders and what are the symptoms that cause the liver disorders and what are the dietary requirements that we have to give them and in order to overcome the liver disorders?

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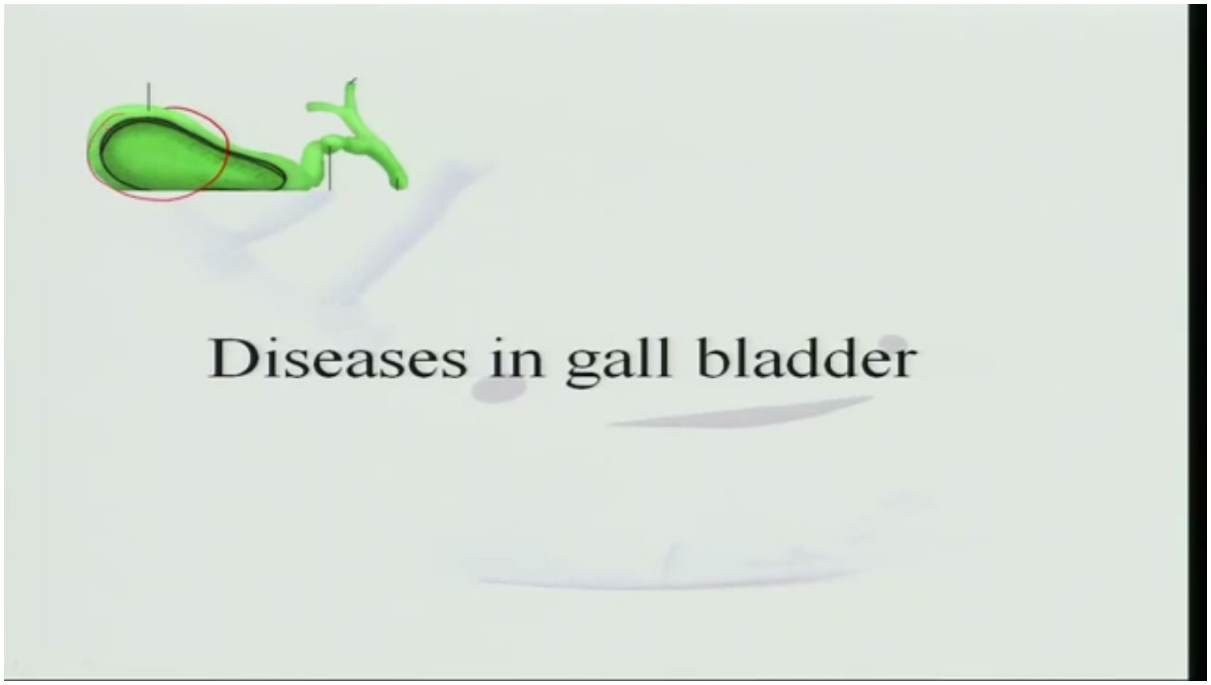

And the bile that liver produces is passed into the gallbladder and the entire bile is concentrated and about 60 ml of it is stored in a gallbladder, which is a small organ which is present below the liver.

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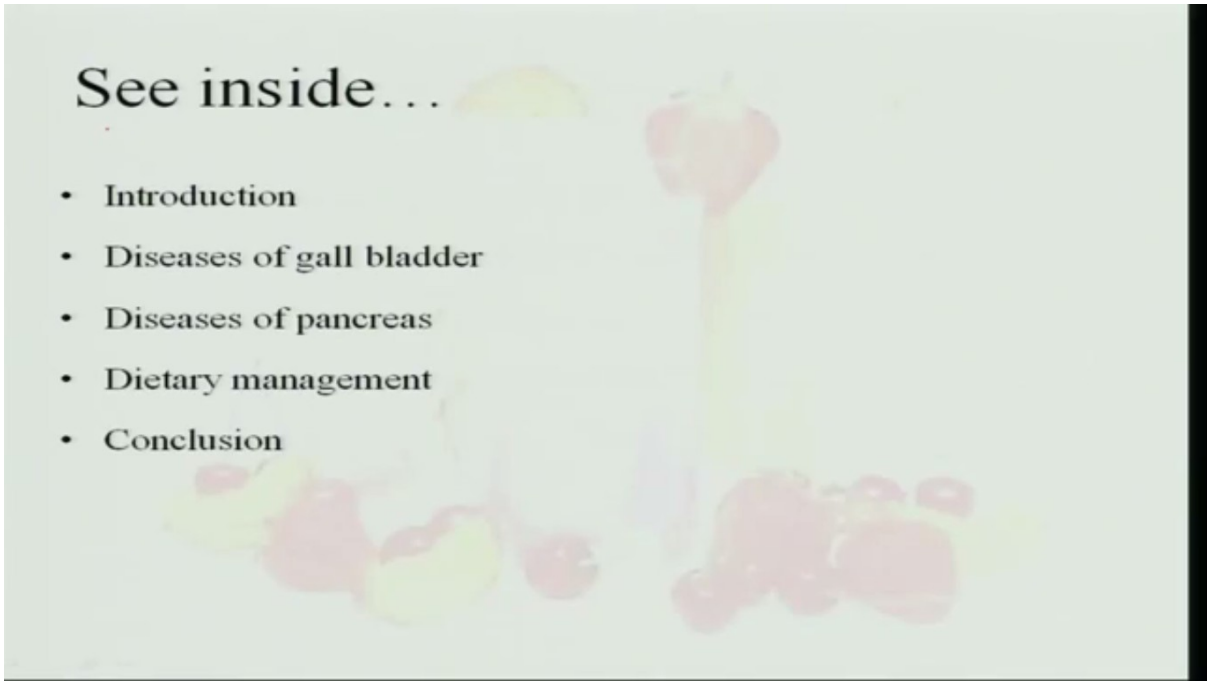

So we will see the diseases of the gallbladder and dietary management of gall bladder.

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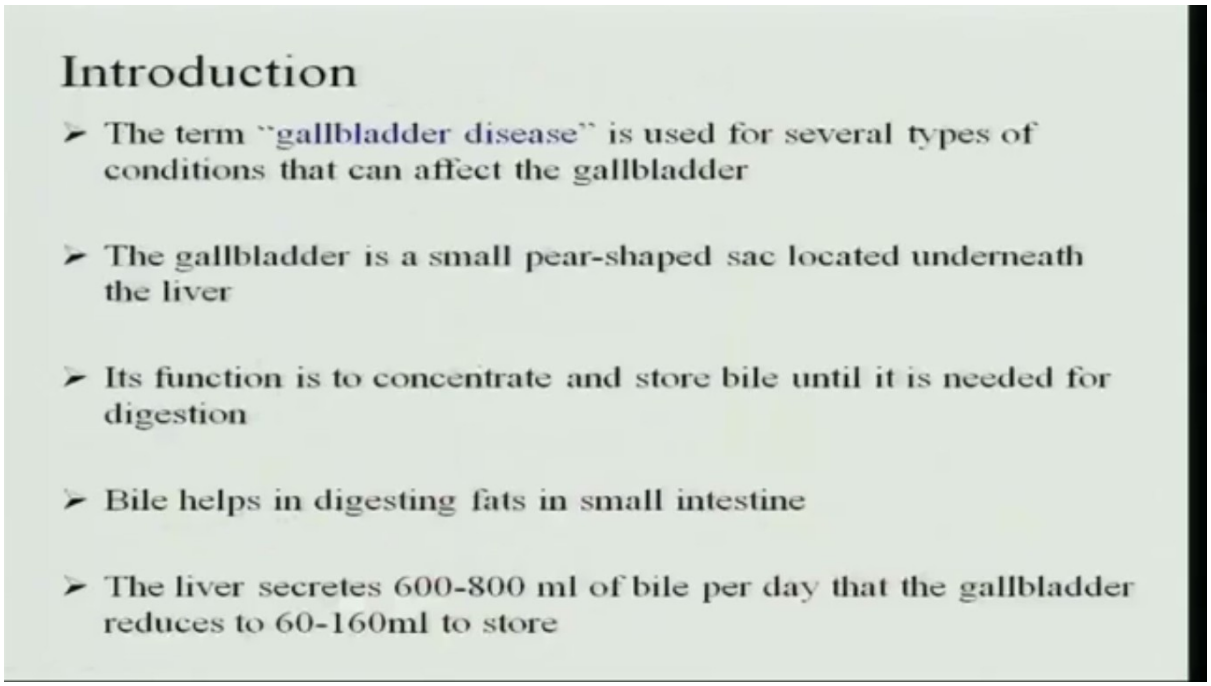

So the term "gallbladder disease" is used for several types of conditions which affect the gallbladder. So it is a very small pear-shaped sac, which is just located under the liver and the function is to concentrate and store bile, which is needed for further digestion. So as we have

been talking that bile is important for digesting fat and in the small intestine that is the duodenal part of the intestine.

Now liver secretes about 800 ml of bile per day and the gallbladder, it concentrates it into 60 to 160 ml to store, and the maximum amount is 60 ml that it stores.

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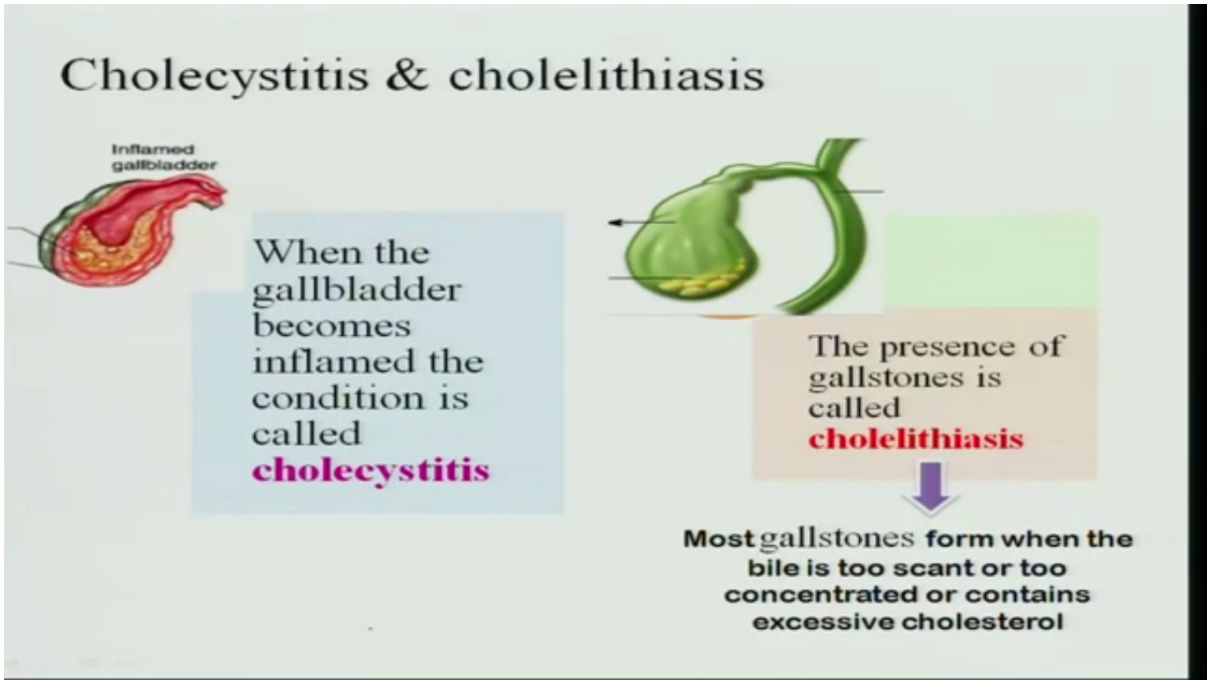

Now the disorders of gallbladder are cholecystitis and cholelithiasis. Cholecystitis is the inflammation of the gallbladder and cholelithiasis is the stones that are formed in the gallbladder. So when the gallbladder gets inflamed, it is called as cholecystitis. Like this it gets increased in the size and when there are stones in the gallbladder, it is called cholelithiasis. So most of the gall stones are from bile. They are too scanty or too concentrated to contain excessive cholesterol.

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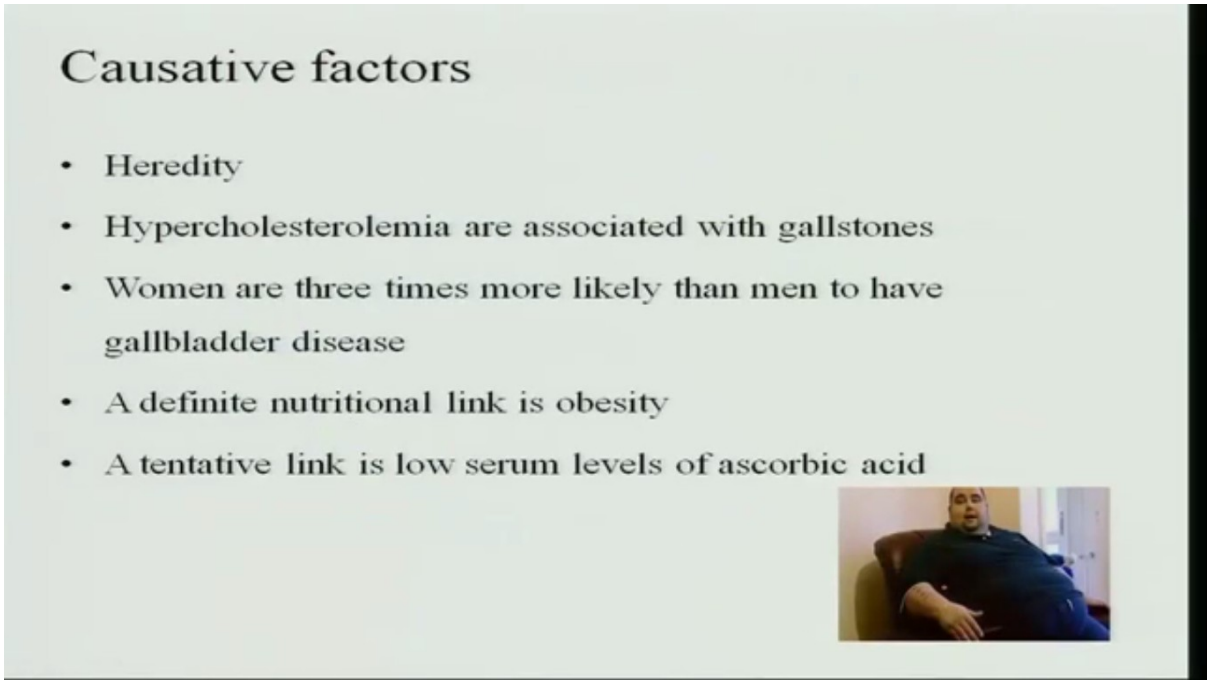

The causative factors are hereditary. So many of the familial history of the presence of gallstones may occur and such people are prone to gallstones. So they have to take preventive care so that such substances may not form into stones in their body.

And hypercholesterolemia, whenever the cholesterol level is very high, then the cholesterols form into plaques, and they form stones and enter into the gallbladder. They settle in the gallbladder or sometimes they are obstructing the gall bile duct.

So women are three times more likely prone to gallbladder disease than men. So a nutritional link in the gallbladder is mainly obesity. Whoever is obese, naturally, all the nutrients that are present, the fat, nutrients, especially the LDL, and cholesterol, triglycerides, all of them will be increased in the blood levels. So, naturally, all these may form into plaques and obstruct the gallbladder.

So the tentative link is between low serum levels of ascorbic acid. If you have low ascorbic acid, again, it leads to formation of stones.

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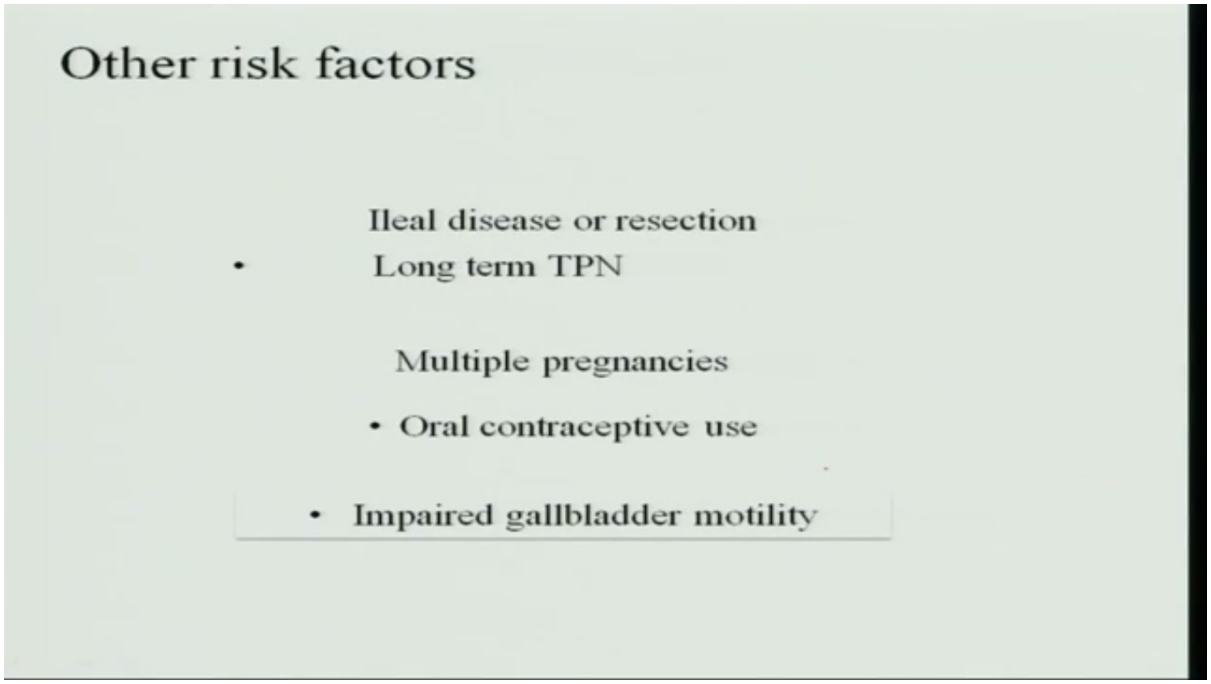

Other risk factors are ileal disease or resection of ileum. Whenever a part of ileum is removed, then long term total parenteral nutrition and multiple pregnancies, long use of oral contraceptive because these contraceptives are hormone based and impaired gallbladder motility.

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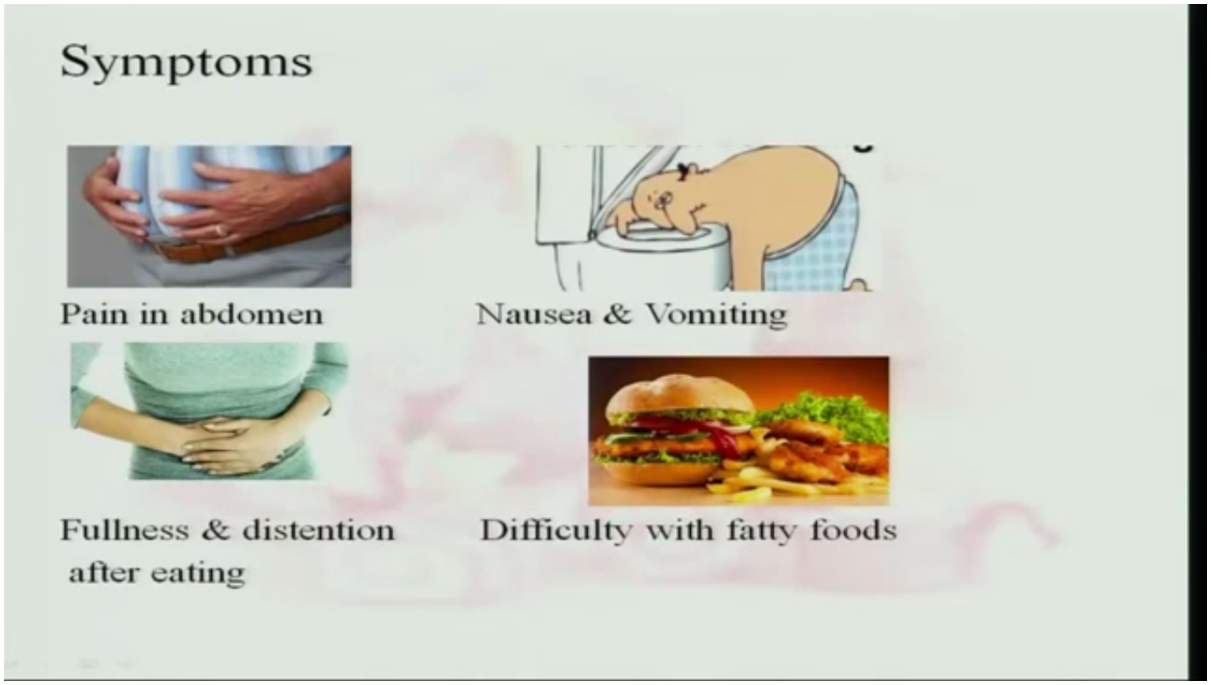

Now symptoms are there is a lot of pain in the abdomen because of either inflammation of gallbladder or stones in the gallbladder will cause pain in the stomach, and there is because of the bile, bile is getting obstructed. Therefore, there is lot of nausea and vomiting, and fullness and distension after eating, and difficulty in fatty foods. Whenever the person takes fatty

foods, they are not digested because bile is not being released. Therefore, it becomes very difficult for the person once he eats fatty foods.

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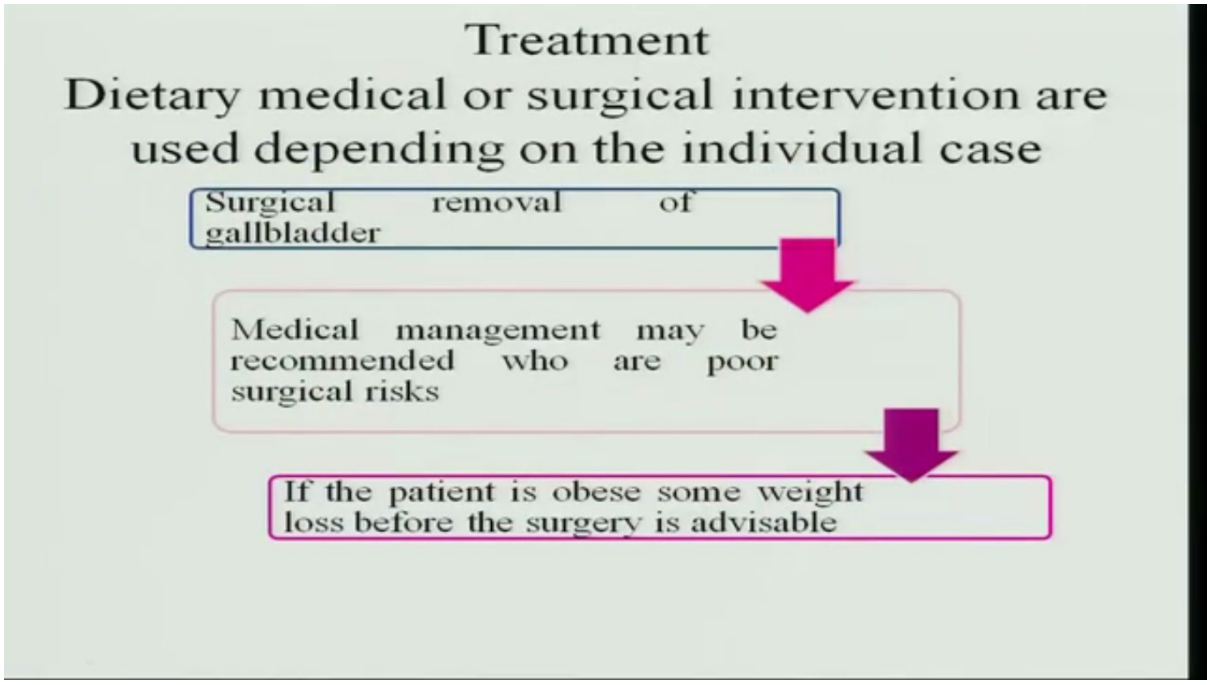

Now treatment will be dietary medical or surgical intervention. Sometimes if it is in the initial stage, medical intervention will be happy to remove the symptoms. Otherwise, you have to remove the gallbladder or remove the stones where if the condition becomes very serious.

So surgical removal of gallbladder is one of the treatment. Then medical management to who are poor for surgical risks and the -- if the person is obese, there should be definitely some weight loss before the surgery is taking place.

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Dietary modifications

The principle aim is to reduce discomfort by providing a diet restricted in fat

Energy: Excess caloric intake appears to be a risk factor for development of gall bladder disease

- If weight loss is indicated, kilocalories will be reduced according to need. Energy should be derived chiefly from carbohydrate

Now dietary modification. The principal aim of the dietary modification is to first reduce the discomfort by providing a fat restricted diet. Whenever fat enters, there is an incidence of the pain in the abdomen. So first thing is restrict the fat in the cholelithiasis or cholecystitis.

Now energy. Excess calorie intake appears to be a risk factor, again, because of excess calorie intake causes obesity and this becomes a risk factor for gallbladder disease. And if weight loss is indicated then you need to reduce the energy intake of the individual and encourage exercise in the individuals, and the energy should be derived mainly from carbohydrate and not from fats.

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Fat: The patient receives no food initially during acute attacks of cholecystitis Progression to 20 gm fat diet is then made

- If this is tolerated, the fat can then be increased to 50-60 gm daily. Thus improving palatability of the diet
- In chronic cholecystitis some degree of fat restriction is usually necessary. With restriction of fats, CHO are used most liberally

And fat, the patient receives no food initially during the acute condition of the disease and progression of 20 grams of fat is slowly made day after day. Then if this fat is tolerated, then fat can be increased to 50 to 60 grams per day and because once there is no fat in the diet and you give the patient a food, which is not palatable, he will not eat the food. Acceptability decreases and it may lead to other nutritional disorders. So improving the palatability of diet can be done slowly once the symptoms are recovered.

And in chronic cholecystitis, some degree of fat is restricted and with restriction of fats, carbohydrates are used liberally. Whatever the energy is reduced from the fat, you have to provide from carbohydrates.

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Then how to reduce the fat in the diet is very important. So there are different ways you reduce the fat. First, select the skim milk. So skim milk is the milk where there is no fat at all. There is 0% fat, which is called as skim milk.

Then limit the fats and oils to 3 teaspoons per day so that you are using only 10 to 15 grams of oil per day, and don't consume 6 ounces of very lean meat. That means the meat without fat has to be selected and given.

Then gas forming foods also should be avoided because it adds to the abdominal pain. Then a moderate amount of alcohol, it can protect against cholelithiasis. So alcohol also should be restricted during the disorders.

So, gallbladder, though it is a very small organ, it causes a lot of disturbance in the digestion of foods where bile is not secreted and the fat is not digested. Therefore, this fat indigestion may lead to steatorrhoea or it may lead to other conditions, and it may lead to symptoms like

stomachache, excess of acidity and all. So it is better to treat the gallbladder disorders by giving low fat restricted diets till the patient recovers.

Thank you.