Nutritional Care in Post-Operative Coronary Artery Bypass Graft

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INCREASED Cholesterol level in the plasma or fatty deposition in the coronary arteries causes destruction in the coronary circulation which supplies oxygen and other nutrients to the heart muscle. Finally, it leads to Coronary Artery Disease (CAD) and heart failure.

Changes in the coronary circulation results in myocardial impairment which in turn causes CAD, needs surgical correction, i.e., Coronary Artery Bypass Graft (CABG).

In post-operative cases of coronary artery bypass graft, nutritional care prevents further collection of Cholesterol level in plasma/fatty deposition and maintains the coronary circulation to the heart.

The diet should be modified considering the risk factors. The patient can be educated about the modified diet and served the same so that the patient can incorporate it throughout his life. This may help in reduction of cardiovascular risk.

Incidence

In India the incidence of the CAD is more in metropolitan cities. Because of high mental stress and strain and less physical work, the incidence of CAD is more prevalent in high socio-economic groups when compared with low socio-economic groups. Considering the different studies conducted in the urban and rural population of India, an average figure of 25/1000 population in the age group of 40 years and above appeares the more common age group.

Methodology Analysis and Interpretation of Data

Twentyeight patients with coronary artery bypass graft in cardio-thoracic recovery room, under cardiology unit of Nizam's Institute of Medical Sciences, Hyderabad, (NIMS), who were above the age of 35 years, were taken for the study. The data was collected through questionnaire, interviews, and observation methods.

The questionnaire was administered to all patients and they asked to fill up the questionnaire. The questionannaire consisted of identification data, meal pattern, types of oils used, common food preparation and change in dietary habits.

For post-operative CABG patient's diet differs from NIMs. In NIMs, Hyderabad, the patient will be given semi-solids or soft diet after 4 to 6 hours of extubation on the first post-operative day itself. For every patient Idly with Samber and coffee is given in the noon. But according to the surgeon's opinion, after recovery from general anaesthesia the intestinal motility starts after few hours. To prevent indigestion, the patient is given easily digestiable diet. The NIMS Surgeons feel that it is the best method of weaning the patient gradually to the (normal) diet.

In the evening the patient is given curd, rice and in the night a glass of milk or coffee according to the patient's preference. From the next day onwards the patient is given rice with dal, rasam and curds.

The Findings

The CAD is more common in high socio-economic group when compared with low socio-economic group. Studies show that CAD is more common in men (85% in men, 15% in women) and in the study all patients had crossed 45 years.

Among a sample of 28 18% were vegetarians and 82% were non-vegetarions. As the non-vegetarians take more oils and fats they are more prone to get CAD. It is also found that 70% patients were overweight and obese and 30% patients had normal weight or were underweight and had undergone

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CABG. As patients are overweight, obesity causes more collection of fat and increased levels of Cholesterol caused CAD.

The study shows most of the patients who had undergone the CABG were using groundnut oil, ghee and butter. Vegetable oils contain unsaturated fatty acids and these patients were at risk.

Lack of fibre in the diet cuases strain during defecation which is also one of the causes for coronary artery disease. 34% of the sample avoided fibrous vegetables and 68% of the sample had the habit of peeling of the skin of a few fruits.

Among the sample 40% were alcoholics, 70% were coffee or tea habituals and 64% were cigarette smokers. Alcoholic drinks and smoking are said to have an adverse effect on the circulary system.

Less of physical exercise predisposes coronary artery disease. When the patients do not have enough physical exercise, the fat gets deposited. It is clear that the business people and professionals are more prone to have the disease as they are under constant stress and strain. The study shows that 62% of the sample were business people and professionals. 82% of the patients had the history of hypertension and diabetes. These patients used to take modified diet. pre-operatively and the same was continued during the prost-operative period.

Post-operatively the patients had more throat secretion. The patients felt discomfort to swallow the diet. After removal of secretions by giving steam inhalations. The patient felt easier to swallow the diet.

The patients were given Idly with Sambar, rice, daal, Rasam, curd, rice, milk, tea and coffee.

According to the patient's likes and dislikes he or she may be given well cooked diet.

Only six patients expressed pain and dysphagia as the patients had endotracheal tube before extubation. Only one patient declined to take Idly as he disliked to.

96% of the sample expressed their positive attitude towards the texture, colour, consistecy, and odour of the diet.

No single patient had expressed about complication related to nutrition and also no difficulty in defecation.

Risk Factors

The nutritional risk factors are: high intake of fatty and oily foods, less consumption of fibres, increased plasma lipids and cholesterol levels, increased intake of non-vegetarian diet, overweight, alcoholism, smoking, etc.

Post-operatively, the patient has to take minimum or nil fatty diet, decreased intake of oily foods and avoid alcoholism and smoking, control obesity and completely avoid non-vegetarian diet.

The patients in the Thoracic Recovery Room are given Idly with Sambar, curd, rice, and on the second day rice, milk, rasam and curds. This diet is acceptable for every patient.

The survey on nutrition in post-operative coronary patients indicates that the nutrition which is given to the patients during post-operative period is suitable to the patients. The patients are recovering well and could cope with this nutrition. These patients could adjust to the modified diet without much problem.

Nutritive Values and Calories

Idly	1	30 gms	140K. cal
Rice	1/2 cup	100 gms	420K. cal
Daal	1 cup	90 gms	400K. cal
Rasam	1 cup	250 gms	25K. cal
Sambar	1 cup	250 gms	25K. cal
Curd rice	1 cup	250 gms	120K. cal
Milk/Tea/Coffee	1 cup	250 gms	60K. cal