

PHYSICAL THERAPY FOR POST CORONARY ARTERY BYPASS GRAFTING COMPLICATIONS -A CASE REPORT

A.Anitha Kumari¹, Ch.Ashok², P.Keerthi Chandra Sekhar³

Dept. of physiotherapy, Swatantra Institute of Physiotherapy and Rehabilitation, Rajahmundry^{1, 2, 3}.

ABSTRACT

Background: This case report describes about the female patient who came with cough, breathlessness and neck pain after one month following coronary artery bypass grafting to the cardiology department. Chest radiograph was taken and diagnosed it as pleural effusion with atelectasis of left lower lobe. Later therapeutic thoracentesis was done to aspirate the fluid and referred the case to physiotherapy. Thorough physical examination showed reduced neck mobility due to trigger points and spasm of the neck muscles which are causing pain, and also breathlessness on walking, on percussion dull note on left lower lobe, on auscultation crackles are heard with diminished breath sounds over the left lower lobe, altered chest symmetry reduced chest expansion of the lower chest. To reduce neck pain and improve neck mobility she was treated with cryostretches, trigger point release technique, myofascial release and muscle energy techniques. She was treated with positioning, chest percussion, vibration and shaking, deep breathing exercises, thoracic expansion exercises, segmental breathing to lower lobes, incentive spirometry every one hour ten times, trunk and thoracic mobility exercises were done twice in a day to reduce breathlessness. After 15 days again x-ray was taken where lung was re-expanded and also there are free movements of the neck without pain.

KEY WORDS: LATE COMPLICATIONS, CORONARY ARTERY BYPASS GRAFTING, EXERCISE, TRIGGER POINTS, MUSCLE ENERGY TECHNIQUE AND MYOFASCIAL RELEASE.

Address for correspondence: A.anitha kumari, Assistant professor, Dept. of physiotherapy, Swatantra Institute of Physiotherapy and Rehabilitation, Rajahmundry, India. E-mail: animpt@gmail.com

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BACKGROUND

Coronary heart disease is one of the most common cause of deaths now a days. Coronary artery bypass grafting is very good intervention in treating the coronary artery diseases. As like other surgeries, Coronary artery bypass grafting is also prone with many complications. Some patients may develop early postoperative complications but whereas others may produce with late complications.

Out of these complications pleural effusions and atelectasis are most common complications that will occur after CABG whereas other musculoskeletal problems also occur due to immobility and adopt kyphotic posture due to pain over the sternal incision site which leads to overload on the surrounding muscles. Phase 1 cardiac rehabilitation will be given in the hospital following CABG which includes breathing exercises, incentive spirometry, chest physiotherapy techniques, expansion exercises, neck, upper limb, chest and trunk mobility exercises, walking, stair climbing etc where as after discharge most of the

patients' don't continue phase 2 rehabilitation, which leads to decreased breathing efficacy, reduced mobility of shoulder, neck and trunk muscles and causes difficulty in leading the normal life.

CASE REPORT

This is a 52-yr-old female case that was diagnosed with coronary artery disease with blocks in Left circumflex artery and left anterior descending artery by coronary angiogram. This patient underwent coronary artery bypass grafting with saphenous vein grafting got treated postoperatively by phase 1 cardiac rehabilitation. After the discharge the patient was not active and didn't continue the rehabilitation. After one month she has dyspnea on walking, chest discomfort and neck pain. Then she came to hospital and chest radiograph was advised where, it was found that she has pleural effusion with mild atelectasis of left lower lobe which developed as postoperative complication of CABG. Therapeutic thoracentesis was done to aspirate the fluid and she was referred to physiotherapy for further management. Exercise testing was done through sub maximal level exercise testing with six minute walk test, also checked inspiratory effort and measured chest excursion by using measuring tape where it shows unable to complete exercise testing, poor inspiratory effort and reduced chest expansion over the lower chest. She also had a complaint of neck pain where examination was done which showed mild kyphotic posture, on observation, trigger points in trapezius and sternocleidomastoid muscles and spasm of neck muscles on palpation, reduction in range of motion of neck on examination. She was treated with deep breathing exercises, thoracic expansion exercises, incentive spirometric exercises everyone hour ten times, trunk and thoracic mobility exercises were done twice in a day.

It was also found that she has neck pain and reduced neck mobility due to trigger points in her neck muscles. Where she was treated with trigger point release along with cryo-stretches, myofascial release and muscle energy techniques. After 15 days again x-ray was taken where it shows complete re-expansion of lower lobe of the lung, normal findings on reassessment and also free neck movements without pain.

DISCUSSION

Respiratory complications remain a leading cause of postcardiac morbidities increasing the hospital stay and visits. The high incidence of complications is in part due to disruption of normal ventilatory function that is inherent to surgery in thoracic region(1). The most common respiratory complications after coronary artery bypass surgery are atelectasis, pleural effusion, pneumonia, pulmonary oedema, adult respiratory distress syndrome etc. Prevalence of pleural effusions are 10% after 28 days postoperatively(2). Pleural effusions that occur with cardiac surgery are post-cardiac injury(dressler's) syndrome due to antimyocardial antibodies. Following CABG most patients' will have small amounts of unilateral left-sided effusions, large effusions occur in 10% of patients. Late(after 30 days) effusions are yellow lymphocytic exudates, most common symptom being dyspnea(3). Musculoskeletal complications also occur postoperatively due to reduced mobility after CABG. Sternal pain can reduce the mobility of neck, leads to kyphotic posture which can further lead to other muscular problems. Hence to reduce the complications postoperatively in CABG phase 2 cardiac rehabilitation is necessary also it reduces the frequent visits to the hospital and improves the quality of life of the CABG patient.

CONCLUSION

Phase 2 cardiac rehabilitation is necessary in order to prevent and treat the post CABG complications both pulmonary and other musculoskeletal.

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