Journal of Advanced Medical and Dental Sciences Research
@Society of Scientific Research and Studies
Journal home page: www.jamdsr.com doi: 10.21276/jamdsr UGC approved journal no. 63854
(e) ISSN Online: 2321-9599; (p) ISSN Print: 2348-6805 SJIF (Impact factor) 2017= 6.261; Index Copernicus value 2016 = 76.77

Original Article

Retrospective Assessment of Physiotherapy on the Complications of Head and Neck Cancer

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ABSTRACT:
Background: With the ongoing demographic and epidemiological transition, cancer is emerging as a major public health concern in India. Physiotherapists are part of an innovative multidisciplinary team that includes occupational therapists, dieticians, speech and language therapists and clinical nurse specialists.Hence; we planned the present retrospective study for assessing effect of physiotherapy on the complications of head and neck cancer. **Materials & methods:** Data records of a total of 50 patients were analysed who were treated in the department of department of physiotherapy. Detailed demographic and clinical data of all the patients was collected and summarized. Visual analogue scale (VAS) was used for assessing the severity of pain. Twice assessment of pain value was records from the data files in terms of VAS score- initially at pre-treatment period, and after treatment value. All the results were analysed by SPSS software. **Results:** Significant results were obtained while comparing the distribution of patients who were given manual therapy, therapy through physical agents and therapeutic exercise. Mean pre-treatment VAS was 7.4 while mean post-treatment VAS was 3.2. **Conclusion:** Patients with late post-treatment complications of head and neck cancer, physiotherapy was effective with great success in significant pain reduction.
Key words: Cancer, Head and neck, Physiotherapy.

Received: 3 December 2018 Revised: 27 December 2018 Accepted: 28 December 2018

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This article may be cited as: Baghel U, Baghel A. Retrospective Assessment of Physiotherapy on the Complications of Head and Neck Cancer. J Adv Med Dent Scie Res 2019;7(1):46-49.

INTRODUCTION

With the ongoing demographic and epidemiological transition, cancer is emerging as a major public health concern in India. Several forms of cancer have been detected, the most common sites of these tumors in human bodies being lungs, stomach, colorectal, liver, and breasts.[1-3] Globally, the cancer etiology as well as epidemiology has received significant attention of researchers and policymakers. In fact, cancer is the second leading cause of deaths worldwide and accounts for a share of 13 percent in total global deaths (or 8.7 million deaths).[4,5]Cancer can result from abnormal proliferation of any of the different kinds of cells in the body, so there are more than a hundred distinct types of cancer, which can vary substantially in their behavior and response to treatment. The Physiotherapists are part of an innovative multidisciplinary team that includes occupational therapists, dieticians, speech and language therapists and clinical nurse specialists.[6-8] Hence; we planned the present retrospective study for assessing effect of physiotherapy on the complications of head and neck cancer.

MATERIALS & METHODS

The present study included retrospective assessment of physiotherapy on the complications of head and neck cancer. Data records of a total of 50 patients were analysed who were treated in the department of department of physiotherapy. Detailed demographic and clinical data of all the patients was collected and summarized. Visual analogue scale (VAS) was used for assessing the severity of pain. Complete details in relation to the type of scar, its inspection and palpation findings were recorded. Following the criteria described previously in the literature, classification and standard measurements of the lesion was done.[9]Twice assessment of pain value was records from the data files in terms of VAS score- initially at pre-treatment period, and after treatment value. All the results were analysed by SPSS software. Chi-square test was used for assessment of level

of significance. P- value of less than 0.05 was taken as significant.

RESULTS

Data records of a total of 50 patients were analyzed. Mean age of the subjects of the present study was 48.5 years. There were 38 males and 12 females in the present study. Mean age of the male patients was 49.4 years and mean age of the female patients 47.9 years respectively. Majority of the patients of the present study belonged to the age group of 40 to 60 years. Significant results were obtained while comparing the distribution of patients who were given manual therapy, therapy through physical agents and therapeutic exercise.Mean pre-treatment VAS was 7.4 while mean post-treatment VAS was 3.2. Significant results were obtained while comparing the mean pre-treatment and post-treatment VAS among the patients undergoing physiotherapy.

Table 1: Age-wise distribution of patients

Age group (years)	Number of patients	Percentage of patients
Less than 40 years	12	24
40 to 60 years	25	50
More than 60 years	13	26

Table 2: Gender-wise distribution of patients

Gender	Number of patients	Percentage of patients	Mean age (years)
Males	38	76	49.4
Females	12	24	47.9
Total	50	100	48.5

Table 3: Distribution of physiotherapy treatment modalities

Treatment Modality	Yes		No		p- value
	Number of subjects	Percentage	Number of subjects	Percentage	
Manual therapy (Classic massage, Manual lymphatic drainage)	**36**	**72**	**14**	**28**	**0.02**
Physical agents (TENS, Ozone high frequency)	**39**	**78**	**11**	**22**	**0.04**
Therapeutic exercise (stretching, muscle strengthening)	**29**	**58**	**21**	**42**	**0.01**
Comprehensive therapy (Elastic facial bandage)	**26**	**52**	**24**	**48**	**0.28**

Table 4: Comparison of VAS among subjects physiotherapy treatment modalities

Treatment Modality	Yes		No		p- value
	Number of subjects	Percentage	Number of subjects	Percentage	
Manual therapy (Classic massage, Manual lymphatic drainage)	**36**	**72**	**14**	**28**	**0.02***
Physical agents (TENS, Ozone high frequency)	**39**	**78**	**11**	**22**	**0.04***
Therapeutic exercise (stretching, muscle strengthening)	**29**	**58**	**21**	**42**	**0.01***
Comprehensive therapy (Elastic facial bandage)	**26**	**52**	**24**	**48**	**0.28**

*: Significant

Table 5: Distribution of VAS score among subjects at different time intervals

VAS	Pre-treatment	Post-treatment	p- value
Less than 3	5	28	0.02*
3 to 6	15	17	
7 to 10	30	5	
Mean	7.4	3.2	

*: Significant

DISCUSSION

The problems that occur in relation to the cancer disease and its treatment vary with the type of cancer, disease stage, and type of medical treatment. Difficulties may develop in the period between diagnosis and primary treatment, during primary treatment, and during follow-up.[8]In the present study, data records of a total of 50 patients were analyzed. Mean age of the subjects of the present study was 48.5 years. There were 38 males and 12 females in the present study. Mean age of the male patients was 49.4 years and mean age of the female patients 47.9 years respectively. Majority of the patients of the present study belonged to the age group of 40 to 60 years.

The role of physiotherapy in the cancer rehabilitation is less understood and particularly in the head and neck cancer (HNC) patients. This results in various residual deformities and dysfunctions for the patients with HNC. The fact that cancer patients are facing several months of chemotherapy and/or radiotherapy and usually major surgery, as well as the direct effect of immobility due to pain, means that muscle wasting, joint stiffness, as well as de-conditioning and fatigue are inevitable. The absence of physiotherapy intervention would be detrimental to patient care and the ability of the patient/family to cope with the effects of the disease or its treatment on their functional capacity and quality of life.[10]

In the present study, significant results were obtained while comparing the distribution of patients who were given manual therapy, therapy through physical agents and therapeutic exercise. Mean pre-treatment VAS was 7.4 while mean post-treatment VAS was 3.2. Significant results were obtained while comparing the mean pre-treatment and post-treatment VAS among the patients undergoing physiotherapy.Ahlberg A et al investigated the effectiveness of an experimental early preventive rehabilitation using hard, objective end points in a nonselective, longitudinal, prospective cohort study. In all, 190 patients were included in the program and received instructions for training before the start of treatment with the aim of reducing swallowing problems and reducing mouth opening and stiffness in the neck. A control group of 184 patients was recruited. There was no difference in weight loss and 2-year survival between the two groups. No positive effects concerning functional impairments were found in patient-reported outcome measures. No positive effects of early preventive rehabilitation could be identified. The results do not contradict the proposition that rehabilitation based on self-care can be effective but it is important to establish evidence-based training programs and identify proper instruments for selection of patients and evaluation of intervention.[11]

Tacani RE et al determined the role of physiotherapy treatment in morbidities of head and neck cancer, in a retrospective investigation, at one oncologic hospital. Retrospective study based on the analysis of medical records of 32 patients treated at the outpatient physiotherapy department was done. Twenty-nine medical records were evaluated, 86.2% were males with cancer in the oral cavity (41.4%) that had radical neck dissection (69%) and radiotherapy (86.2%), evolving with lymphedema (89.7%), pain (82.8%), normotrophicscar (65.5%), tissue adherence (27.6%) and hypoesthesia (51.7%). The physiotherapeutic treatment included: manual lymphatic drainage (89.7%), transcutaneous electrical nerve stimulation (TENS; 51.7%), mechanical massage therapy (37.9%), stretching exercises (79.3%) and patient education (100%). The results showed a reduction of pain and lymphedema, increased normotrophic scars and normoesthesia, with an average of 19.3 ± 14.5 sessions and treatment discharge of 65.5%. Physical therapy in morbidities of head and neck cancer was effective in reducing pain and lymphedema, combining manual lymphatic drainage, transcutaneous electrical nerve stimulation (TENS), mechanical massage therapy, stretching exercises and patient education, with an average of 19 sessions and discharge after treatment.[12]

CONCLUSION

From the above obtained results, the authors conclude that in patients with late post-treatment complications of head and neck cancer, physiotherapy was effective with great success in significant pain reduction. However; further longitudinal studies are recommended.

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Source of support: Nil **Conflict of interest:** None declared