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Therese Engström 1, Alexander Ahlberg 2, Polymnia Nikolaidis 3, Karin Lundgren Gunnarsson 4, Lena Sharp 4, Göran Laurell 5

1 Dept. of Speech Pathology Karolinska University Hospital, Stockholm, Sweden; 2 Dept. of ENT Karolinska University Hospital, Stockholm, Sweden; 3 Dept. of Physiotherapy, Karolinska University Hospital, Stockholm, Sweden; 4 Dept. Of Oncology, Karolinska University Hospital, Stockholm, Sweden; 5 Dept. of Clinical Sciences, Umeå University, Umeå, Sweden

therese.engstrom@karolinska.se, Alexander.ahlberg@karolinska.se, polymnia.nikolaidis@karolinska.se, karin.lundgren-gunnarsson@karolinska.se, lena.sharp@karolinska.se, goran.laurell@ent.umu.se

Abstract

Objectives: To describe a clinical pathway for early rehabilitation of head and neck cancer patients.

Method: A clinical pathway has been developed at Karolinska University Hospital to improve rehabilitation for patients with head and neck cancer receiving radiotherapy (RT) or a combination of RT and surgery. For many years the clinical pathway for these patients has included consultations with dentists, dental hygienists, dieticians, social workers, nurses and physicians before, during and after RT. Since three years, the patients are also seen by a speech language pathologist and physiotherapist for assessment and information before and after RT. The aim is to start the rehabilitation process early, before the initiation of RT and with that to reduce the risk of complications such as dysphagia, trismus and voice and speech impairment. Emphasis is put on giving patients information about treatment side-effects, improving patient involvement and self-care. The patients receive a physical training program with exercises aiming to maintain tongue and laryngeal motility, jaw opening, swallowing and shoulder function. These exercises should be performed on a daily basis during and after the RT-period. Altogether 257 patients have been included in the intervention group. In an on-going study data is collected from medical hospital files, individual assessments and patient questionnaires (EORTC QLQ-C 30, EORTC QLQ-H&N 35, HADS and a study specific questionnaire) at baseline and at six-month follow-up. Data from the intervention group will be compared with data from a control group.

Keywords: rehabilitation
Introduction

Approximately 300 patients are treated for head and neck (H&N) cancer in Stockholm every year. Many patients suffer from side effects after treatment such as dysphagia, voice-and speech impairment as well as trismus and reduced head/shoulder motility. For many years the clinical pathway for these patients have included consultations with dentists, dental hygienists, dieticians, social workers, nurses and physicians before, during and after RT. The patients were seldom referred to a speech language pathologist or physiotherapist. And if a referral was made, it was always initiated by persistent treatment induced side effects and in general a long time after end of treatment. Earlier studies have shown inadequate rehabilitation for this patient group. During 2004-2007 the Swedish Cancer Society supported a project aiming to develop a clinical pathway to improve rehabilitation for head and neck cancer patients. The goal has been to start the rehabilitation process early, at time of diagnosis, and if possible prevent some of the long-term side effects and to increase patient’s involvement.

Patients/Materials and Methods

2.1 Patients

257 consecutive patients with H&N cancer who received radiotherapy or combination treatment (RT+ surgery) with curative intent between January 2004-June 2007 at Department of Oncology (unit for radiotherapy at South Hospital), Karolinska University Hospital were included in the program.

2.2 Methods

The patients were invited by the coordination nurse for participation in a rehabilitation program including regular visits to a speech language pathologist (SLP) and physiotherapist (PT) for assessment, information about side effects and treatment if needed.

All patients were seen by a SLP before the start of RT and three months after completed treatment. At each visit the patients chewing and swallowing functions of four consistencies were examined by a clinical examination. The tongue motility was examined with oralmotor exercises. The voice and speech functions were assessed perceptually by the SLP. All patients were given prophylactic exercises to maintain motility in tongue and muscles involved in swallowing. The patients were informed to perform tongue motility exercises and a laryngeal motility exercise (Mendelson maneuver) daily during ongoing radiotherapy and preferably two-three months after end of treatment.

The patients also met with a PT before RT start and instructions for exercises were given for preventing trismus and head and neck motility. Follow ups were done 2, 6 and 12 months after RT. The head and neck mobility and interincisial distance was measured before RT and at follow-up. The patients were informed
to perform prophylactic trismus-exercises daily with a so called Engströms-klämma, a large wooden cloth pin that the patient put between their teeth and then pressed the jaws apart according to a certain schedule.

The patients also answered a study specific questionnaire about their swallowing and chewing capacity, speech, voice, dryness of mouth and sensation of taste before and three months after RT. In addition EORTC QLQ- C 30, EORTC QLQ-H&N35 and HADS were completed by the patients at baseline and a six-month follow-up. Data from the intervention group will be compared with data from a control group.

**Results**

This is an ongoing study but the preliminary results show that jaw motility is reduced in almost all H&N patients after RT. Head and shoulder motility is reduced in patients receiving combination therapy (surgery and RT) but not in patients with single modality treatment.

**Discussion and Conclusions**

Our experience from this four year long project is that multi-professional collaboration is educational and essential in high quality cancer care and that early intervention of SLP and PT should be a part of the cancer treatment for H&N patients.

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