

Secondary Lymphedema Prevalence in Head and Neck Cancer Patients

Joey Deng*

School of Nursing, Vanderbilt University, Nashville, Tennessee, USA

Abstract

Context: Since medical procedure, radiation, or potentially chemotherapy disturbs lymphatic designs, harm delicate tissue prompting scar tissue arrangement and fibrosis, and further influence lymphatic capability, patients with head and neck disease might be at high gamble for creating auxiliary lymphedema. However, there are no published statistics on the incidence of secondary lymphedema following treatment for head and neck cancer.

Objective: The point of this study was to analyse pervasiveness of auxiliary lymphedema in patients with head and neck disease.

Methods: The review included 81 patients with head and neck malignant growth who were three months or more post-treatment. The Foldi lymphedema scale was used to stage external lymphedema. A flexible fiber-optic endoscopic or mirror examination revealed internal lymphedema. Internal lymphedema was graded using Patterson's scale.

Results: 75.3% (61 of 81) of the patients had some kind of late-effect lymphedema, according to the findings. Of those, only 9.8% (six out of 61) had an external condition, 39.4% (24 out of 61) only had an internal condition, and 50.8% (31 out of 61) had both types.

Conclusion: Lymphedema is a typical late impact in patients with head and neck malignant growth, and it creates in numerous outer and interior physical areas. During actual assessment and endoscopic techniques, clinicians ought to evaluate patients with head and neck malignant growth for late-impact lymphedema. When lymphedema is observed, it should be considered to be referred for treatment. Lymphedema risk factors and their effects on symptoms, function, and quality of life in patients with head and neck cancer require further investigation.

Keywords: Secondary lymphedema; Head and neck cancer; Prevalence; Late effect

Introduction

Multimodal cancer treatment is common for head and neck cancer patients who have locally advanced disease. While aggressive multimodality treatment improves outcomes (such as survival, local control, and function preservation), it also raises the risk of late effects, which are toxicities that occur at least three months after cancer treatment has been completed [1]. Secondary lymphedema is a common late effect that is often overlooked in patients with head and neck cancer. Lymphedema can have a profound impact on critical physical functions (such as breathing and swallowing) and affect areas (such as the face and neck) that can lead to body image issues and social isolation [2]. As a result, having a clear understanding of the frequency, location, and sequelae of lymphedema is essential. These patients may develop secondary lymphedema externally (such as the face and neck) and internally (such as the larynx and pharynx) Albeit no examinations enough record the locales and appearances of lymphedema [3] in patients with head and neck malignant growth, European writing reports that the predominance of optional lymphedema is somewhere in the range of 12% and 54%. This extensive variety of assessed commonness of auxiliary lymphedema in patients with head and neck disease might be connected with varieties in the physical destinations surveyed for lymphedema (e.g., outside versus inward), contrasts [4] in the time span of follow-up, contrasts in evaluating measures, or contrasts in malignant growth treatment regimens across studies. Information connected with pervasiveness rates in the U.S. are inadequate. As a result, the goal of this study was to find out how common secondary lymphedema is in patients treated for head and neck cancer at a large comprehensive cancer center in the United States [5].

Methods

Authorization to direct the review was acquired from the

Institutional Audit Board at Vanderbilt College and the Logical Survey Panel at Vanderbilt-Ingram Malignant growth Place (VICC). All participants gave written, informed consent.

Participants

1) You had to be under the age of 18, 2) you had to be at least three months post-treatment for head and neck cancer, and 3) there was no current evidence of cancer. If an individual met one of the following conditions, they were left out: 1) effectively going through chemotherapy or radiation treatment, 2) having metastatic disease or some other dynamic malignant growth, or 3) unfit to figure out the educated assent.

Definition of lymphedema

With the end goal of this review, lymphedema is characterized as expanding that creates no less than 90 days after head and neck malignant growth treatment, past the time period in which intense edema happens in this persistent populace. Outer lymphedema is characterized as apparent enlarging in the skin and delicate tissue of the head and neck area. The visible swelling that occurs in the upper aero digestive tracts mucosa and underlying soft tissue is known as internal lymphedema.

*Corresponding author: Joey Deng, School of Nursing, Vanderbilt University, Nashville, Tennessee, USA, E-mail: joey.deng@vanderbilt.edu

Received: 29-May-2023, Manuscript No. ijm-23-98266; **Editor assigned:** 01-June-2023, PreQC No. ijm-23-98266(PQ); **Reviewed:** 15-June-2023, QC No. ijm-23-98266; **Revised:** 22-June-2023, Manuscript No. ijm-23-98266(R); **Published:** 29-June-2023, DOI: 10.4172/2381-8727.1000224

Citation: Deng J (2023) Secondary Lymphedema Prevalence in Head and Neck Cancer Patients. Int J Inflamm Cancer Integr Ther, 10: 224.

Copyright: © 2023 Deng J. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Procedures

After receiving treatment for head and neck cancer, patients who were seen at the VICC for follow-up were approached to determine their interest in participating in the study. A consent form was requested from interested patients. After that, participants took a demographic survey and had a physical exam to see if they had external lymphedema [6]. All evaluations for outside lymphedema were finished by an authorized/enrolled nurse utilizing a standard technique to guarantee consistency. This nurse received instruction on how to assess external lymphedema in cancer patients, including those with breast cancer and head and neck cancer [7]. The internal lymphedema of the participants was then assessed through a routine endoscopy performed by one of the two study physicians. The study physicians were instructed on how to use Patterson's scale to assess the severity of internal lymphedema. Chart review was used to gather information about the disease and its treatment [8].

Results

Demographic characteristics (Table 1)

A summary of demographic characteristics is provided. The example was 71.6% male and gone in age from 33 to 86 years. The majority of participants (88.9%) were white and had completed at least high school. Most members (61.7%) were hitched or living with an accomplice. The greater part of the members were getting government protection help (56.8%) and lived in a metropolitan region (60.5%). 68% detailed a smoking history (14.8% presently smoked), and 40.7% revealed truly drinking liquor (11.1% as of now guzzle liquor) [9].

Head and neck cancer disease and treatment characteristics

The sample's disease and treatment characteristics are summarized. The oropharynx was the most successive essential cancer area (42.0%). High level stage illness (III/IV) was available in 80.2% of all members. A lot of cancers were squamous cell carcinoma.

Prevalence of lymphedema

An overview of the prevalence of external, internal, and combined lymphedema is provided. 75.3 percent (n = 61) of the participants had some form of lymphedema, including external lymphedema alone, internal lymphedema alone, or combined lymphedema, as determined by physical examination and endoscopic/mirror examination [10].

Using Foldi's lymphedema scale, 45.7% (n = 37) of participants were found to have external lymphedema after a physical examination. The submental and neck regions were the most common locations of external lymphedema in this study.

The severity, location, and prevalence of internal lymphedema are summarized. The level of internal lymphedema severity was the highest of all the affected locations. Internal lymphedema affected 67.9% (n = 55) of the participants, according to the study.

Discussion

This study is the biggest to date that has led point by point appraisals of both outside and inward lymphedema in patients with head and neck disease at least three months post-treatment. In addition, it is the first study in the United States to report rates of external, internal, and combined lymphedema, as well as the prevalence of secondary lymphedema [11] in patients with head and neck cancer. Our findings show that 75.3% of participants had some form of lymphedema, with 9.8% having only external lymphedema, 39.4% having only internal

Table 1: Demographic characteristics.

Characteristics	Frequency (%) (n = 81)
Gender	
Male	58 (71.6)
Female	23 (28.4)
Race	
White	72 (88.9)
Black	9 (11.1)
Education level	
<12th grade	9 (11.1)
12th grade	30 (37.0)
College	36 (44.5)
Graduate	6 (7.3)
Marital status	
Married/living with partner	50 (61.7)
Single/widowed/other	31 (38.3)
Employment status	
Employed	43 (53.1)
Retired	25 (30.9)
Disabled	5 (6.2)
Unemployed	8 (9.9)
Residence area	
Metropolitan	49 (60.5)
Rural	32 (39.5)
Insurance coverage	
Medicare/Medicaid/TennCare/TriCare	46 (56.8)
Private insurance/HMO	28 (34.6)
None/other	7 (8.6)
Smoking	
Current	12 (14.8)
Past	43 (53.1)
None	26 (32.1)
Drinking alcohol	
Current	9 (11.1)
Past	24 (29.6)
None	48 (59.3)
Age (mean, median, IQR 25–75, min, max)	59.55, 59.67, 51.28–67.37, 33.08, 86.65

lymphedema, and 50.8% having combined lymphedema. This rate is much higher than what was previously reported [12].

The prevalence of secondary lymphedema following treatment for head and neck cancer has been reported in four European studies. These studies have a number of limitations. Although the authors of the first study did not include external lymphedema, they found that 54% of participants developed laryngeal lymphedema following concurrent chemoradiation treatment. The second study detailed 48.4% of members who created submental or supraglottal lymphedema after head and neck disease treatment [13]. However, the prevalence of external lymphedema, internal lymphedema, and combined lymphedema was not defined in the study, which may have underestimated its prevalence. The third study found that 17%–36% of

participants had external lymphedema following surgery; however, the patients were not examined to see if they had also developed internal lymphedema. The last study revealed that 12% of the patients created subcutaneous lymphedema and fibrosis after head and neck disease as recognized through amplifying laryngoscopy assessment [14].

Conclusion

Optional lymphedema is a continuous late impact in patients with head and neck malignant growth. External or internal structures may be involved. In numerous patients, both outer and inner designs are involved all the while. As a result, secondary lymphedema is a significant clinical phenomenon that has the potential to significantly reduce function and the burden of symptoms. Lymphedema should be checked out on a regular basis, and if it is found, treatment is needed. Secondary lymphedema's incidence, prevalence, natural progression, and impact on patients' quality of life require additional research.

Acknowledgement

None

Conflict of Interest

None

References

1. Ryan DP, Hong TS, Bardeesy N (2014) Pancreatic adenocarcinoma. *N Engl J Med* 371: 1039-1049.
2. Landman A, Feetham L, Stuckey D (2020) Working together to reduce the burden of pancreatic cancer. *Lancet Oncol* 21: 334-335.
3. Shi Y, Jin J, Qiu W (2020) Short-term outcomes after robot-assisted vs open pancreaticoduodenectomy after the learning curve. *JAMA Surg* 155: 389-394.
4. Pannala R, Basu A, Petersen GM, Chari ST (2009) New-onset diabetes: a potential clue to the early diagnosis of pancreatic cancer. *Lancet Oncol* 10: 88-95.
5. Wu W, He Q G, Jiang C Z (2008) Magnetic iron oxide nanoparticles: synthesis and surface functionalization strategies. *Nanoscale Res Lett* 3: 397.
6. Gupta A K, Gupta M (2005) Synthesis and surface engineering of iron oxide nanoparticles for biomedical applications. *Biomater* 26: 3995.
7. Gilchrist R, Medal R, Shorey W D, Hanselman R C, Parrott J C, et al. (1957) Selective inductive heating of lymph nodes. *Ann Surg* 146: 596.
8. Jordan A, Scholz R, Wust P, Schirra H, Schiestel T, et al. (1999) Endocytosis of dextran and silan-coated magnetite nanoparticles and the effect of intracellular hyperthermia on human mammary carcinoma cells in vitro. *J Mater* 194: 185-196.
9. Pourshams A, Sepanlou SG, Ikuta KS (2019) The global, regional, and national burden of pancreatic cancer and its attributable risk factors in 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet Gastroenterol Hepatol*. 4: 934-947.
10. Park W, Chawla A, O'Reilly EM (2021) Pancreatic cancer: a review. *JAMA* 326: 851-862.
11. Owens DK, Davidson KW, Krist AH (2019) Screening for pancreatic cancer: US Preventive Services Task Force reaffirmation recommendation statement. *JAMA* 322: 438-444.
12. Goggins M, Overbeek KA, Brand R (2020) Management of patients with increased risk for familial pancreatic cancer: updated recommendations from the International Cancer of the Pancreas Screening (CAPS) Consortium. *Gut* 69: 7-17.
13. Huxley R, Ansary-Moghaddam A, Berrington de González A, Barzi F, Woodward M (2005) Type-II diabetes and pancreatic cancer: a meta-analysis of 36 studies. *Br J Cancer* 92: 2076-2083.
14. Li X, Lu J, Hu S (2017) The primary health-care system in China. *Lancet* 390: 2584-2594.