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Case Report

Palliative management of advanced stage head and neck cancer: Evidence-based case report

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Abstract

Background: Head and neck cancer is one type of cancer with high prevalence in Indonesia. So far, the therapeutic approach for patients with head and neck cancer has focused a lot on the curative approach. In patients with advanced conditions, unable to undergo curative therapy, the palliative approach plays an important role to improve the quality of life.This paper aims to better understand about palliative care in advanced head and neck cancer.
Case Illustration: Male, 43 years old, with adenocystic carcinoma of the salivary gland. The tumor has already spread to the spinal cord. The team decided to put the patient into palliative care. Treatment goals for this patient were to reduce pain.
Discussion: Therapeutic choices for head and neck cancer include surgery, radiotherapy, and chemotherapy. The palliative approach plays a role at the point where the patient's condition determines the shift in the treatment plan from curative to palliative therapy. Early palliative therapy provided a statistically greater effect on the overall quality of life, overall survival, incidence of depression and severity of symptoms.
Conclusion: In advanced head and neck cancer, early palliative intent treatment leads to improvements in quality of life.

Keywords: *head and neck cancer, quality of life, treatment advance stage, palliative treatment*

Abstrak

Pendahuluan: Kanker kepala leher merupakan salah satu jenis kanker yang banyak ditemukan di Indonesia. Selama ini pendekatan terapi pasien dengan kanker kepala leher banyak terfokus pada pendekatan kuratif. Pada pasien dengan kondisi lanjut dan tidak dapat menjalani terapi kuratif, pendekatan paliatif memegang peranan penting untuk meningkatkan kualitas hidup. Laporan kasus berbasis bukti ini bertujuan untuk memahami lebih baik mengenai terapi paliatif pada kanker kepala leher.
Ilustrasi Kasus: Laki-laki, usia 43 tahun dengan karsinoma kistik adenoid kelenjar liur. Pasien dengan perluasan tumor ke daerah kanalis spinalis. Tim dokter memutuskan untuk memilih terapi paliatif sebagai tatalaksana pada pasien dengan tujuan akhir untuk mengurangi nyeri.
Diskusi: Pembedahan, radioterapi dan kemoterapi merupakan pilihan terapi utama pada kasus keganasan kepala leher. Dalam beberapa kasus lanjut dimana pasien tidak lagi mampu menjalani terapi kuratif, terapi paliatif merupakan pendekatan terapi terpilih. Pendekatan paliatif memiliki efek positif terhadap kualitas hidup, kesintasan, insidensi depresi dan derajat keparahan gejala.
Kesimpulan : Pada kasus kanker kepala leher stadium lanjut, pendekatan terapi paliatif sejak dini dapat meningkatkan kualitas hidup pasien.

Kata Kunci*: kanker kepala leher, kualitas hidup, tata laksana stadium lanjut, terapi paliatif*

Background

Head and neck cancers are the sixth most common types of cancers in the world. In Indonesia, the prevalence of cancers of the head and neck is high. According to GLOBOCAN 2018, head and neck cancers make up 8.63% of all new cancer cases yearly, with nasopharyngeal carcinoma being the most prevalent (5.2% of all new cancer cases). Cancer of the salivary glands, however, make up roughly 0.67% of all new cancer cases annually.[1]

Salivary gland cancers are rarely occurring cancers, making up about 3-6% of all head and neck cancers globally. About 15-20% of salivary gland cancers originate from the submandibular glands. Cancer of the salivary glands can be classified into two groups: cancers of the major salivary glands, including parotid, submandibular and sublingual glands, and minor glands that surround the cavities of the mouth, pharynx, larynx, nasal cavities, and paranasal sinuses. Cystic adenoid carcinoma is histologically the most commonly occurring salivary gland cancer of the submandibular region and the minor salivary glands.[2,3]

Management of head and neck cancers, including salivary gland cancers, involves a combination of surgery, radiation therapy, chemotherapy and palliative therapy. Multiple indications in support of palliative therapy for head and neck cancers exist, including the presence of distant metastasis at the time of diagnosis, advanced locoregional disease, history of surgical or extensive radiation intervention, patient comorbidities, poor tolerance towards curative therapies and patient autonomy. These conditions can lower the social function of patients, and thereby lower the overall quality of life.[4,5]

Adenoid Cystic Carcinoma of the Salivary Gland

Epidemiology

Adenoid Cystic Carcinoma *(*ACC*)* is a type of head and neck cancer that arises from the salivary gland. ACC occurs among 1% of head and neck malignancies and 10% of all salivary gland cancers.[2] ACC occurs in all populations. No definite risk factors exist that increase the occurrence of ACC.[2,3]

Histopathology

Histopathologically, ACC can be divided into three types; tubular, cribriform and solid. Microscopically, ACC is made up of small basaloid epithelium, non-luminal, hematoxyphillic cells, with small and medium sized cytoplasm. [2,3]

Cribriform type ACC most commonly demonstrates a “swiss cheese” like histopathologic pattern. Tubular type carcinoma is characterised by the presence of tubules that are layered by luminal cells with clear cytoplasm. Solid type tumors are made up of basaloid cells that grow in sheets without lumina.

All types of ACC show perineural invasion, allowing the tumor to follow the neuronal path. Cancer cells also exhibit intraneural invasion.[2,3]

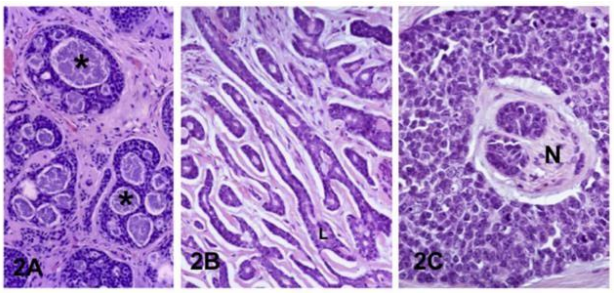

Figure 1. Histopathologic image of ACC, A: cribriform type, B: tubular type, C: solid type

The prognosis of ACC can be predicted based on its grading. According to Szanto et al, ACC can be classified into:

- Grade I: cribriform and tubular patterns without solid components
- Grade II: purely cribriform patterns or mixed with >30% solid components
- Grade III: dominated by solid patterns

Low grade tumors are usually found on the palate or the parotid gland, whereas high grade tumors usually occur in the submandibular glands. [2,3]

Diagnosis

ACC is a type of malignancy that grows slowly, however, is progressive and tends to involve nerves, often reoccurs, and can cause distant metastasis. To determine the diagnosis, a histopathologic examination of the tumor sample is required, which is obtained via incision biopsy.[2,3]

Ultrasonography (USG) examination can be used to detect ACC early, despite the lack of specificity in differentiation between ACC and other head and neck cancers: irregular borders and heterogenous

hypoechogenic structures, often with cystic patterns, form the general description of many malignancies. USG guided fine needle aspiration biopsy can differentiate between malignant and benign lesions with a sensitivity of 88%-93% and specificity of 75%-99%.[2,3]

Magnetic Resonance Imaging (MRI) can provide sensitive images, which can be used to predict malignancy and differentiate the tumor from surrounding structures such as nerves, cartilages, and bones. CT scans are preferred to evaluate tumor invasion into bone. PET scan can be conducted to determine the presence of distant metastasis.[2,3,6]

From the MRI examination, ACC is seen as an unclear mass, with diffuse infiltration from nearby structures and worsening with contrast. Solid type histological patterns generally display lower signals upon T2-weighted sequence MRI imaging. The combination of irregular borders, local invasion and hypointense t2-weighted MRI sequence is characteristic of salivary gland carcinomas. [2,3,6,7] MRI is superior to the CT scan in detecting perineural invasion of ACC to the skull base (sensitivity 95%-100%).[2,3]

Management

Primary management of Head and Neck ACC is surgery, followed by post-operative adjuvant radiotherapy. Radiotherapy is the treatment of choice for salivary gland tumors that are inoperable.[2,3,6,7] Management of inoperable, unresectable or recurrent salivary gland cancer poses a complex challenge. ACC is a predominant subtype of these challenging tumors due to the perineural invasion, which is often extensive and involves the primary structures of the skull base.[2,3]

ESTRO ACROP guidelines 2022 for external beam radiotherapy divides two types of patients into patients with uncomplicated and complicated bone metastases. Bone metastases, regardless of size, should be considered uncomplicated if: 1) painful; 2) no impending or pre-existing pathologic fracture; 3) no compression of the spinal cord or cauda equina, regardless of size.[8] ESTRO ACROP guidelines 2022 recommends the use of single dose of 8-10 Gy conventional external beam radiotherapy for inoperable metastatic spinal cord compression (MSCC) patients while stereotactic body radiotherapy (SBRT) should not be used routinely outside clinical trials for MSCC. MSCC re-irradiation is safe at 6 months if the cumulative BED is 100-135.5 Gy.[9]

Tumor stage, lymph node status, age and tumor grade remain as the most important prognostic variables of salivary gland malignancies. Multiple studies have also shown that the presence of perineural invasion is an independent predictor of survival.[4,6]

Palliative Approach

According to the World Health Organization (WHO), palliative therapy is a therapeutical approach designed to improve the quality of life of patients and their families in facing life-threatening illnesses through prevention and recovery that is performed via early assessment towards the patient condition, as well as management physical, psychosocial, and spiritual complaints.[10]

Supportive therapy for head and neck cancer patients generally aims to manage symptoms including pain, dysphagia, dyspnea, bleeding, and ulceration. These complaints significantly affect the patient's quality of life. Administration of analgesics, performing tracheostomies to ensure airway patency, and nasogastric tube (NGT) placement to provide adequate nutrition to head and neck cancer patients are some types of palliative therapies that can be performed.[4,5,8]

Palliative therapy does not only focus on the patient but also on the caretaker, who loyally accompanies the patient. Information provided to the patient and family regarding the disease, as well as its complications, may aid in reducing fear among the patients and their families. As a result, the management of patients with head and neck cancers, especially those with advanced stage disease, requires multidisciplinary teamwork between otorhinolaryngologist-head and neck surgery, radiology, surgery, radiotherapy, medical oncology, palliative medicine, medical rehabilitation, pain management teams or anesthesiology, and psychiatry.[5]

Medical teams play a role in discussing patient management, including determining which patients can be admitted and which illnesses are categorised as incurable. Radical therapy of advanced stage or recurrent head and neck cancer is considered “futile” and can lead to a lower quality of life. Determination of effective decision making in palliative conditions is highly essential. Patients and their families must completely understand the diagnosis and prognosis of the disease.[11,12]

Competent and completely conscious patients have the right to make decisions regarding their management. In cases where patients lack autonomy, medical decisions can be made by representatives. This right is given to spouses, followed by adult children, and finally, other family members.[11,12]

Symptom control and proper psychosocial function can aid in choosing sensible therapies. Palliative care is associated with less aggressive cancer treatment.[13]

Palliative therapy targets

Palliative therapy requires a holistic and multidisciplinary approach. All members of the palliative care team must have the ability to communicate effectively. The end goal of palliative therapy includes the treatment of symptoms and the management of psychological and social problems of the patients. Following are some types of palliative approaches in patients with advanced head and neck cancer:[13]

Symptom control

1. Palliative surgery

Advanced stage head and neck cancer may cause significant discomfort to the patient. Surgery aims to reduce the size of the tumor, reduce the pain and bleeding risk, to improve swallowing, nutrition, and airway. Debulking surgery for head and neck cancers can provide benefits in symptom control. However, major resection rarely provides any benefit. Endovascular techniques, including embolization and vascular stents, can be the treatment of choice for bleeding control.[13]

2. Non-surgical palliative therapy

Radioterapy. Palliative radiotherapy may help to reduce pain experienced by patients with advanced stage head and neck cancers. ESTRO ACROP guidelines 2022 for external beam radiotherapy of patients with complicated bone metastases recommends radiation therapy should be used in combination with appropriate pharmacological and neurostimulation therapy for neuropathic pain due to bone metastases. For neuropathic pain, a single dose of 8 Gy should be used using conventional techniques. In patients with uncomplicated bone metastasis, ESTRO ACROP guidelines 2022 reccomends 1) Conventional radiation therapy should be used to treat uncomplicated painful bone metastases, especially when pain is not adequately controlled by analgesics or when analgesic reduction is desired. 2) For diffuse pain due to multiple bone metastases, single fraction hemibody or widefield radiation should be considered. Patients with uncomplicated painful bone metastases should be treated with a single dose of 8 Gy. 3) Patients with inadequate pain relief, no pain relief, or recurrence of pain after initial radiotherapy should be considered for reirradiation with a single dose of 8 Gy. 4) There is no advantage of high-dose conventional radiotherapy or SBRT over conventional single-dose radiotherapy for pain responses in oligometastatic bone disease. [8,9]

Chemotherapy. Chemotherapy, both monotherapy and when combined with radiotherapy, provides significant symptom control and higher quality of life; however, it also increases toxicity and side effects of the therapy.[13]

3. Dysphagia management

Roughly 40% of head and neck cancer patients experience dysphagia due to mechanical or functional obstruction, side effects of medicines, fistulas or pain. Functional endoscopic evaluation of swallowing (FEES) performed on head and neck cancer patients is essential in ensuring safe oral intake for the patient. Aspiration and silent aspiration are uncommon among advanced stage head and neck cancer patients. If results from the FEES show the presence of dysphagia, then nutrition may be provided enterally via the nasogastric tube (NGT).[13]

4. Airway Management

Indications for tracheostomy in palliative patients are not drastically different from those in non-palliative patients. In patients at risk of respiratory failures, such as with oral, oropharyngeal, laryngeal and thyroid tumors that are not operated on, fixation of vocal cords by invasive tracheal tumors, as well as the presence of cervical metastases, may require establishing patency of the airway. In chronically intubated patients, chronic aspiration may occur, warranting the need for a "*pulmonary toilet*." The decision to perform tracheostomies should be based on consent from the patient and their family. Tracheostomies in patients with advanced stage head and neck cancer can increase the quality of life.[13]

5. Pain Management

Pain is the dominant symptom suffered by patients with advanced stage cancer. Pain may cause agitation, frustration, and fear. In patients with advanced stage

head and neck cancer, holistic pain management can be achieved using the WHO analgesic ladder strategy. Despite that, pain management in head and neck cancer patients is often not sufficient. Lack of knowledge and skill in evaluating pain, inappropriate analgesic agents, unavailability of morphine, and myths regarding opioid addiction are some barriers to successful pain management in cancer patients.[14]

6. Nausea and Vomiting

Treatment of nausea and vomiting with anti-emetic medications such as metoclopramide and domperidone can be provided to relieve the symptoms.[13]

7. Constipation

In patients with advanced stage head and neck cancer, constipation is one of the most common complaints, which is caused by prolonged immobilisation, dehydration and use of constipation causing medicines, such as opioids and anti-cholinergics. Laxatives should be provided to the patient, along with opioid administration.[13]

Intensive communication between patients and physicians and early palliative treatment may increase the chance that patients accept their conditions and are satisfied with their patient-doctor relationship, increasing the patient's acceptance of symptom control and psychosocial intervention, resulting in reduced pressure. Reducing pressures experienced by patients is consistently associated with quality of life and survival. Furthermore, patients and their families that undergo early palliative care receive information regarding treatment and end-of-life decisions making; hence patients and their families are able to make careful decisions by respecting patient autonomy.[15]

Bioethic Principles of Palliative Therapy

Doctors and other medical professionals often face ethical challenges in applying palliative therapy to patients. Multiple dilemmas and medical issues arise in the implementation of palliative therapy.[13]

Medical bioethics is a field of applied ethics that studies the moral values and evaluation that is applied in the field of medicine. Medical bioethics aims to provide guidelines to doctors in performing their duties responsibly. [14]

There are four pillars of medical bioethics that are used in palliative therapy[14]

1. *Autonomy* – patient has the right to continue or terminate treatment
2. *Beneficence* – moral principles that prioritise interventions that benefit the patient
3. *Non-maleficence* – moral principles that prohibit interventions that worsen patient conditions, also known as the "*primum nonnocere*" principle
4. *Justice* – moral principal that prioritises fairness in the distribution of resources.

In addition to the four basic bioethical principles, other principles include dignity and honesty.

In cases of terminal advanced head and neck cancer, it is important for a doctor to understand the clinical decision-making process to stop and delay medical interventions. In terminal cases, patients and their families may experience difficulties in accepting the terms of curative treatment, thereby warranting effective communication regarding the disease process.[14]

Screening of palliative cases can be performed using several scoring systems. At Cipto Mangunkusumo National General Hospital (RSCM), palliative screening is scored based on:

1. Main disease
2. Comorbidities
3. Patient functional status based on the ECOG (Eastern Coorperative Oncology Group) performance status
4. Other criteria that must be considered (appendix 1).

Patients with a palliative score of 0 to 2 do not require palliative intervention. A score of 3 means that patient is still in the observation stage. If a patient score is $\geq$4, palliative consultation is required.

Case Report

A 43-year-old male patient, complaints of masses behind the ear and right lower jaw. Upon physical examination, the patient was found to have paresis of the right peripheral facial nerve (N.VII) and tetraparesis. CT scan results showed 2 uncorrelated masses. The masses extended into the spinal cavity, having solid multifocal malignant characteristics, located in the right mastoid, left mandibula, left parapharyngeal space and C1-T2 vertebra, with evidence of level I-II bilateral

cervical lymphadenopathy. Based on the immuno-histochemistry examination, the masses were shown to be solid type adenoid cystic carcinoma of the salivary glands.

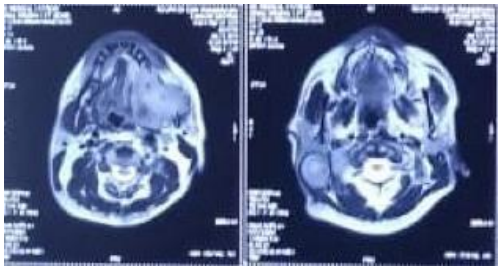

Figure 2. Mastoid MRI with contrast

Based on meetings with multiple disciplines, the patients were decided to undergo palliative care with the target of controlling pain. The pain medication given to the patient included 4x10mg of immediate release morphine, 3x600mg of gabapentin and 1x25mg of Duragesic patch. Throughout the treatment, a nasogastric tube (NGT) was also placed to ensure adequate nutritional needs were met. The urinary catheter was also placed throughout treatment.

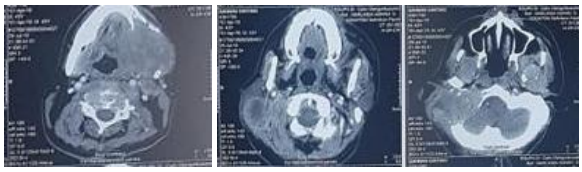

Figure 3. Neck CT scan

Literature Review

Clinical Question

Based on the case described above, a clinical problem exists with regard to patient treatment, especially with deciding to choose palliative therapy. Hence, the clinical question is as follows, "In patients with advanced stage head and neck cancer, does early palliative care improve the quality of life?"

P : Patients with advanced stage head and neck cancer
I : Early palliative head and neck cancer care
C : Head and neck cancer management
O : Quality of life

Based on the above clinical question, the eligibility criteria for the literature were created, which included:

1. Study design: systematic review, RCT, Observational study (cohort or case control)
2. Literature written in English or Bahasa Indonesia
3. Subjects were patients with advanced stage head and neck cancer
4. Received palliative care
5. Outcomes were measured using validated quality of life scoring tools

Search Strategy

The literature search was conducted using two databases: PubMed/Medline and Cochrane. Keywords used in the search strategy included *head and neck cancer, head and neck carcinoma, head and neck neoplasm, early palliative care, palliative care referral and quality of life.* Initial search results showed 5 literatures. The screening was conducted to remove duplicated articles, limit the search based on human subjects and availability of full text, resulting in 4 included articles. The articles were evaluated, and only 1 article met the eligibility criteria set by the authors.

Critical Appraisal Method

Critical appraisal of the included article was conducted by two researchers using the CEBM Oxford critical appraisal tool.

Critical Appraisal Results

The article by Haun et al,[15] is a systematic review consisting of 7 randomised controlled trials (RCTs) which aimed to understand the benefit of early palliative therapy in patients with advanced stage head and neck cancer. Outcome measures included quality of life, survival, depression, and severity of symptoms.

Table 1. Search method

Database	Seach Strategy	Hits	Selection
PubMed	(((head neck cancer[Title/Abstra ct]) OR head neck carcinoma[Title/Ab stract]) OR head neck neoplasm [Title/Abs tract])) AND ((early palliative care [Title/Abstract])OR palliative care refferal[Title/Abstract]))) AND quality of life[Title/Abstract]	1	1
Cochrane	Head and neck cancer AND earlypalliative care AND quality of life	4	1

They performed a search strategy in Medline, CENTRAL, EMBASE, PsycINFO, CINAHL and OPENGREY. EU databases, and from the references of the selected articles. Potential articles were searched from the bibliography of individual articles included in the systematic review and meta-analysis, so it could be entered into the systematic review. Articles that were included met the inclusion and exclusion criteria, which consisted of RCT study design on a group of advanced stage cancer that could not undergo curative treatment, recruited adults over the age of 18 and were receiving palliative care.

The authors excluded articles whose subjects were diagnosed with cancer since childhood or were predicted to have a remaining life expectancy of under three months since the start of the study.[13]

Data was extracted using a structured form by two independent researchers. Two researchers analysed the obtained data, and the accuracy was confirmed using the kappa statistic to determine if an eligibility criterion was required. Any disagreement between the researchers was discussed with a third independent researcher.[13]

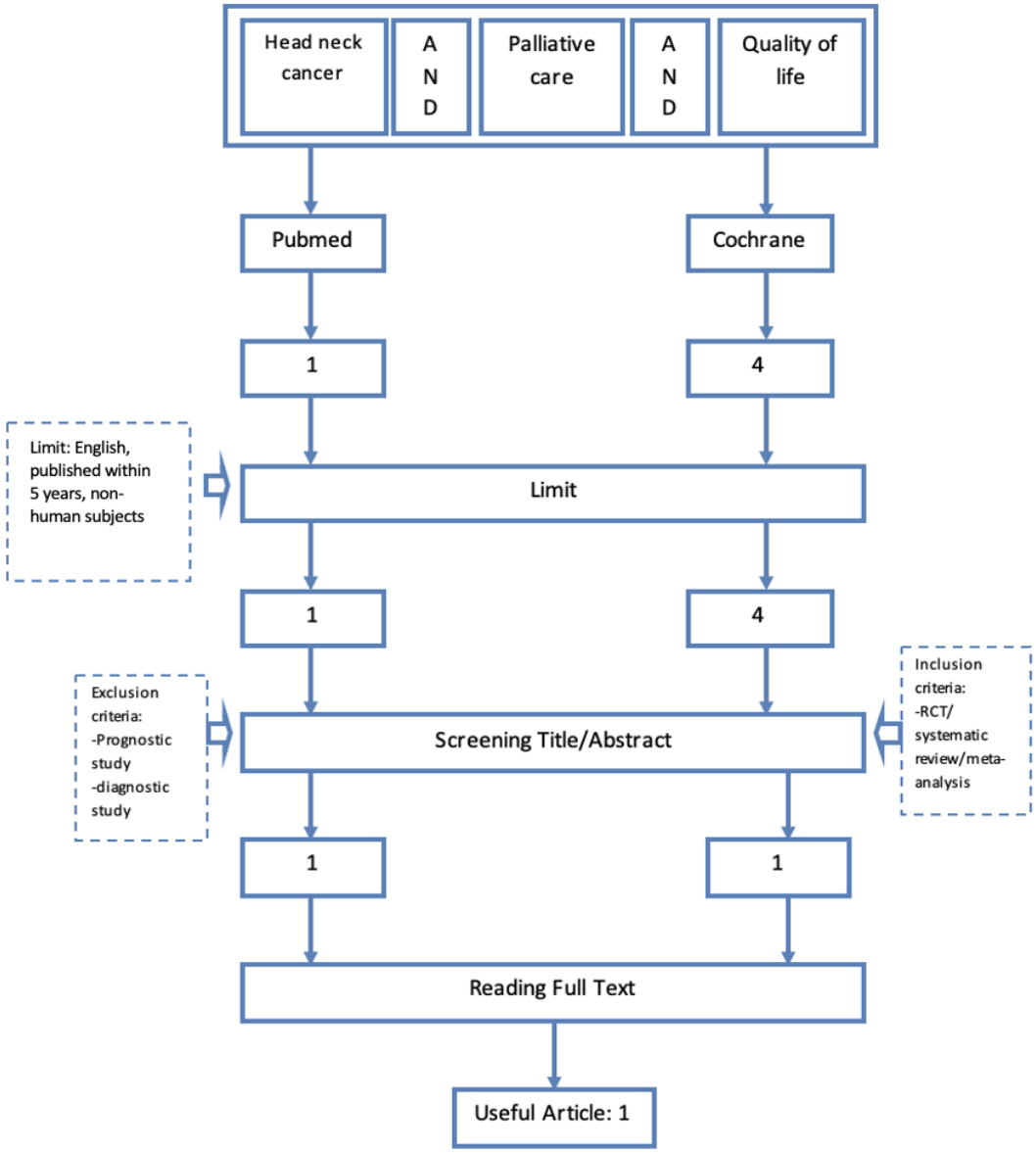

Figure 4. Search flow chart

In order to evaluate the quality of the study, the authors determined the eligibility of the study using a bias risk assessment based on the criteria stated in the *Cochrane Handbookfor Systematic Reviews of Interventions* and resolved differences in opinions through discussion. This study uses the Oxford Quality Score as the bases of the eligibility assessment. This article stated the combined effect of multiple studies as the standard mean differences (SMD).

Table 2. Critical appraisal

Q-FAITH Method Critical Appraisal	***YES/NO/NOT CLEAR***
Q*uestion*- Can the clinical question in this systematic review be defined clearly and specifically?	YES
F*ind*- Is the relevant search strategy stated clearly?	YES
A*ppraise*- Have the studies included been appraised critically?	YES
I*nclude*- Have the researchers obtained only high quality studies?	YES
T*otal up*- Are the results presented in a summary table and plots?	YES
H*eterogeneity*- Is there any heterogeneity between the studies?	YES

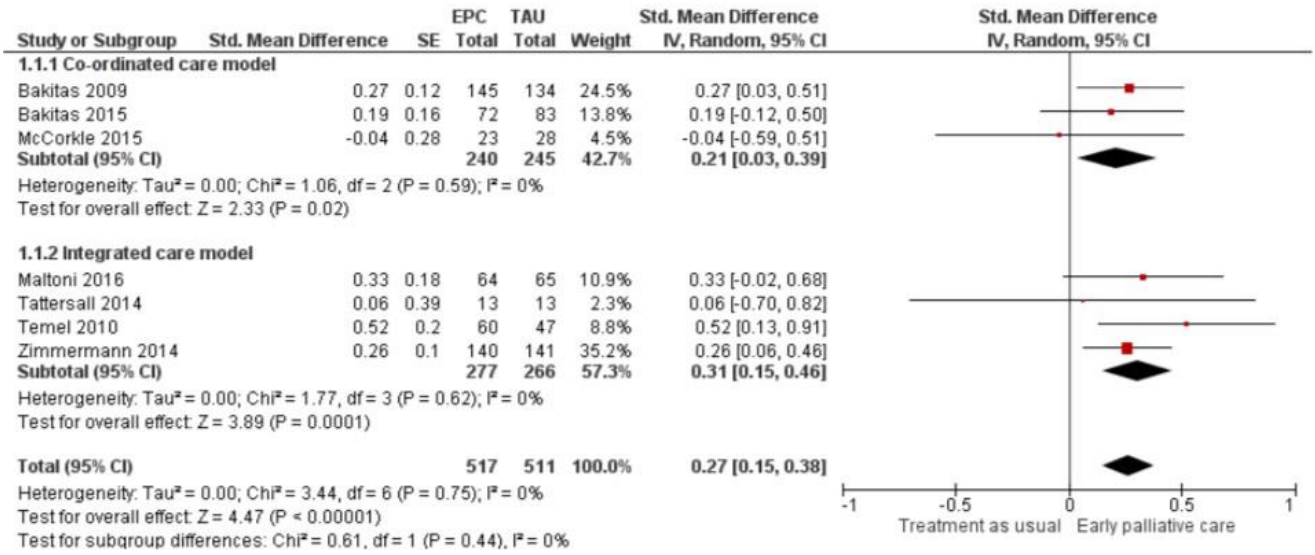

Figure 5. Forest plot comparing early palliative therapy vs without palliative therapy and overall patient quality of life.

Assessment of the trust level is conducted using the GRADE (Grading of Recommendations, Assessment, Development and Education) tool and is summarised in the table "Summary of Findings".[15]

Based on the search by Haun et al, it was found that patients receiving early palliative care had a significantly higher quality of life compared to cancer patients who were not receiving early palliative care (SMD 0.27, 95% CI 0.15-0.38). This result was statistically significant (Figure 3).[15]

In this article, the risk of bias is quite low (Figure 6). Among all the seven included studies, all studies were randomised using a random sequence generator to avoid selection bias. In this systematic review, the blinding of personnel was not included into the bias risk assessment. However, the authors were blind to the subjects and result assessment.[15]

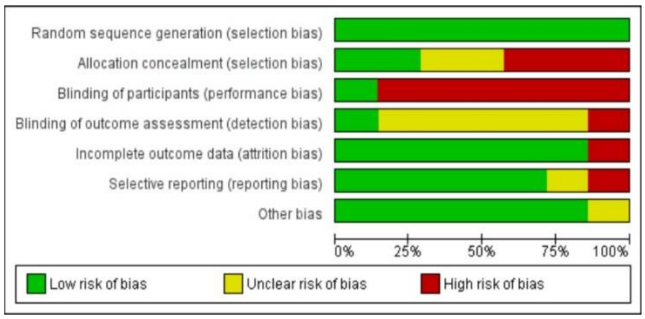

Figure 6. Bias risk

Discussion

Management of the patient in this case report is focused on palliative treatment since, in this case, tumor invasion into the spinal cavity had occurred, causing difficulty in mobilisation. Furthermore, the presence of spinal decompression from C1 to T2 in this patient increased the risk of respiratory depression if the intervention was performed without cervical stabilisation. Hence, palliative care played an important role in managing the patient described in the case report, including the family.[7,16,17]

Therapeutic choices for head and neck cancer include surgery, radiotherapy, and chemotherapy. The palliative approach plays a role at the point where the patient's condition determines the shift in the treatment plan from curative to palliative therapy. Conditions where the intervention may have a greater risk than the benefit towards the patient.[17]

Based on the article by Haul et al, from the 7 RCTs included in the study, results generally showed that early palliative therapy provided a statistically greater effect on the overall quality of life. Positive SMD values demonstrate a greater quality of life, whereas negative SMD values denote a lower quality of life. From the 7 RCTs in this systematic review, all studies used different standard effect size measures of quality of life, using scoring tools that were validated individually. [13]

Based on conventional criteria, a SMD score of 0.2 shows a small effect size, 0.5 denotes a moderate effect size, and 0.8 demonstrate a large effect size. Despite the small effect size obtained from the studies, this effect may be clinically relevant in advanced stage disease, where the prognosis is limited and overall quality of life tends to be lower. [15]

Apart from the quality of life, in this systematic review, overall survival, incidence of depression and severity of symptoms were also assessed. From the overall results, it can be concluded that there is a positive effect of palliative care, even though the size may not be large.[15]

Cancer is often diagnosed at a late stage of the disease. Patients may choose to start or continue curative treatments with potential side effects that may arise. However, patients may also choose to receive early palliative care. This approach, known as early palliative management, begins at or soon after the patient is diagnosed with advanced stage cancer. Palliative treatment is often combined with chemotherapy and radiotherapy. Early palliative management involves empathetic communication with patients regarding the prognosis, treatment plan and evaluation and control of symptoms.[15,18,19]

WHO has recommended all nations to implement comprehensive palliative care programs to increase the quality of life of patients, however, referral of patients for palliative care is often late. Quality of life is the focus of palliative care, and hence is chosen as the outcome measure in this study.[10]

In palliative care, it is essential to always evaluate each patient individually and to create a care plan according to the individual, disease stage, personal preference, and family's wishes. Meeting with family members to create a shared understanding between medical personnel and patient and family members is the first step of the palliative approach. By understanding the target and wishes of the patient and the family, treatment towards the patient can be maximised and guided. All decisions are made based on the results of the discussion between the patient and the medical personnel.[19,20]

Care for patients with head and neck cancer is quite challenging to the complex nature of nutritional needs, risk of airway obstruction, bleeding and psychosocial problem associated with chronic pain, communication difficulty, disability and addiction.[20]

Based on the results of this systematic review, further reviews with larger study sizes are required to obtain greater and more accurate effect size.

Conclusion

In patients with advanced stage head and neck cancer, whereby the patient's condition is inoperable, a palliative approach becomes the treatment of choice. Palliative therapy aims to increase the quality of life, via the control of symptoms experienced by the patient, as well as a spiritual and psychosocial approach.

Despite the small effect size obtained from this study, the results may be clinically relevant in patients with advanced stage head and neck cancer and limited prognosis. With these results, the addition of palliative care should be considered as a part of the protocol or recommended management of advanced stage head and neck cancer patients, especially in RSCM.

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Appendix 1

<table>
<tr><td colspan="3">1. Main Disease</td><td colspan="2">2. Comorbidity</td></tr>
<tr><td colspan="3">Cancer (metastasis/recurrent)
Advanced COPD
Stroke (functional loss > 50%)
Chronic Kidney Disease
Severe heart disease : congestive heartfailure, severe coronary artery disease, cardiomyopathy (left ventricle ejection fraction < 25%)
HIV/AIDS
Severe congenital disorder
*Every point gets a score of 2. Score:_____</td><td colspan="2">a. Chronic Liver Disease
b. Moderate Kidney Disease
c. Moderate COPD
d. Congestive Heart Failure
e. Other conditions or complications
* Every point gets a score of 1
Score:_____</td></tr>
<tr><td colspan="3">3. Functional status
Using the ECOG performance status tool
(European Cooperative Oncology Group)</td><td>4. Other criteria under consideration
*Score 1 for each consideration</td><td>SCORE</td></tr>
<tr><td>Degree</td><td>Scale</td><td>Specific score</td><td>a. Will not undergo curative therapy</td><td></td></tr>
<tr><td>0</td><td>Active, can perform without difficulty like before the disease</td><td>0</td><td>b. Severe disease and chooses to terminate therapy</td><td></td></tr>
<tr><td>1</td><td>Some difficulty faced upon heavy activity, but can perform light work, such as light house and office work</td><td>0</td><td>c. Pain lasting for over 24 hours</td><td></td></tr>
<tr><td>2</td><td>Able to walk and care for self, but cannot perform activities for >50% hours awake</td><td>1</td><td>d. Experiences uncontrolled symptoms such as nausea and vomiting</td><td></td></tr>
<tr><td>3</td><td>Limited care for self, spends most of the time in bed or wheelchair > 50% of hours awake</td><td>2</td><td>e. Requires psychosocial and spiritual care</td><td></td></tr>
<tr><td>4</td><td>Cannot care for self, spends most of the time in bed, severe disability</td><td>3</td><td>f. Frequent emergency room visits > 1x/month for the same diagnosis</td><td></td></tr>
<tr><td colspan="2" rowspan="3">TOTAL SCORE</td><td rowspan="3"></td><td>g. More than once for the same diagnosis in 30 days</td><td></td></tr>
<tr><td>h. Prolonged hospital admission without significant improvement</td><td></td></tr>
<tr><td>i. Prolonged ICU admission without significant improvement</td><td></td></tr>
</table>

Score Interpretation
Score 0 - 2 : does not require palliative treatment
Score 3 : observation
Score ≥4 : requires palliative consultation