# Evidenced-based Medicine Oncology Surgery Department

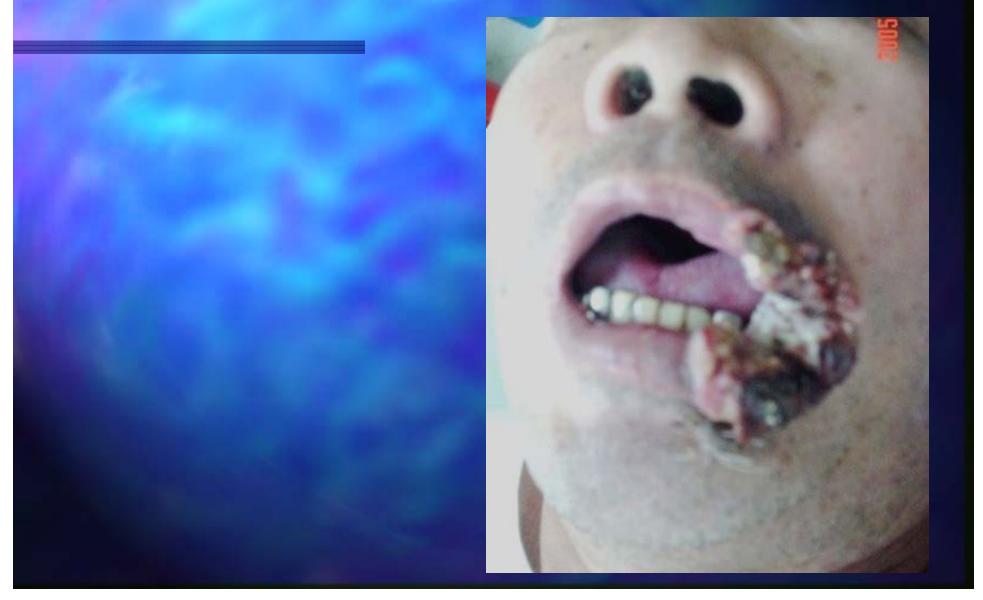
指導老師:吳誌峰醫師

報告人:張琮琨 R2

## Case Scenario

- A 59 years old male
  - Left Buccal mass was noted for one year
  - Tumor characteristic:
    - Size: 5X6\_cm
    - Location: Exophtic mass over left buccal, with mouth angle involved
    - Surface: rough
    - Shape: polypoid
    - Color: red
  - Pathology: Squamous cell carcinoma, grade I
  - Oral CT: Left buccal carcinoma, T4N0M0, stage IVa

# Buccal carcinoma with commissure involved



# Background Question

 What is the primary treatment for buccal carcinoma with mouth angle involvement?

How is the prognosis of that treatment?

# Schwartz's Principles of Surgery

 Small lesions can be excised surgically, but more advanced tumors require combined surgery and postoperative radiation.

# Foreground Question

- Surgery has been the primary therapy for buccal cancer
- However, large involvement makes total excision difficult, and extensive surgical resection may lead to cosmetics and functional disability
- Compared with surgery and radiotherapy, dose intra-arterial infusion chemotherapy have better outcome and prognosis in views of curability, cosmetic and functional benefits among those buccal ca patients?

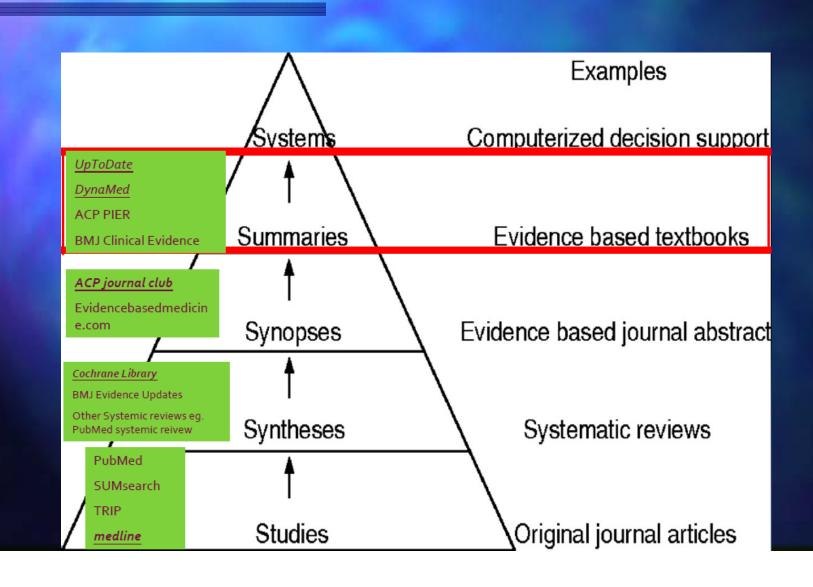
# PICO

Patient/ Problem	A 59 years old male with buccal carcinoma, T4N0M0, over left cheeks with mouth angle involved.
Intervention	Intra-arterial infusion chemotherapy
Comparison	Surgery
Outcome	Functional, cosmetic benefit and curability

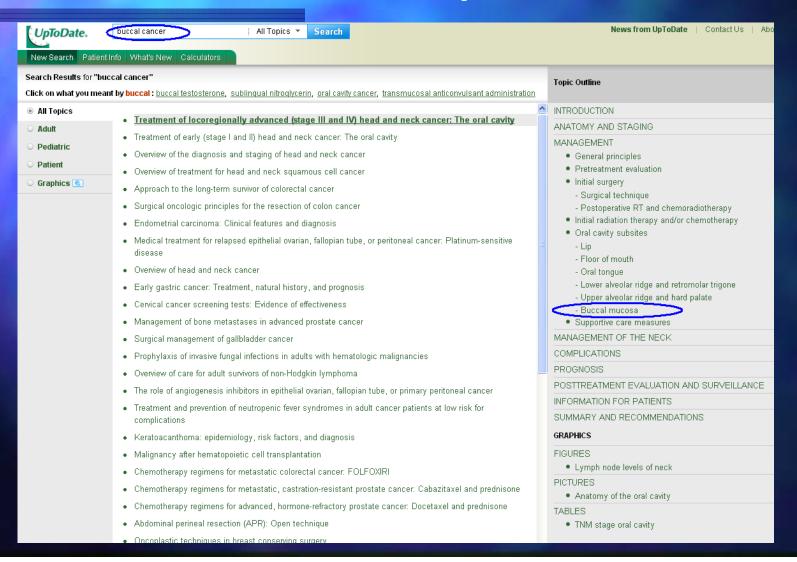
## Search for the best evidence

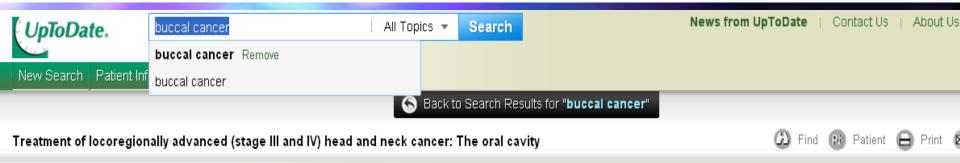
- Key words:
  - Buccal carcinoma/ mouth angle/ perioral involved
  - Surgical excisionIntra-arterial infusion chemotherapy
- Databased:
  - UpToDate, ACP Journal, The Cochrane Library, Pubmed

# Search strategy: 5S model



# Summaries: UpToDate







postoperative RT [18,19]. Resection of the ascending ramus of the mandible including the pterygoid muscles is important to ensure eradication of disease. Microvascular reconstruction with a fibular free tissue transfer provides optimal functional and cosmetic rehabilitation. (See "Treatment of early (stage I and II) head and neck cancer: The oral cavity", section on 'Retromolar trigone and lower alveolar ridge'.)

**Upper alveolar ridge and hard palate** — Hard palate cancers are rare. Locally advanced lesions typically involve the underlying bone, and primary surgery is used more commonly than definitive RT [20]. Resection is generally well tolerated. These patients can be reconstructed with either an immediate surgical obturator or microvascular-free tissue transfer.

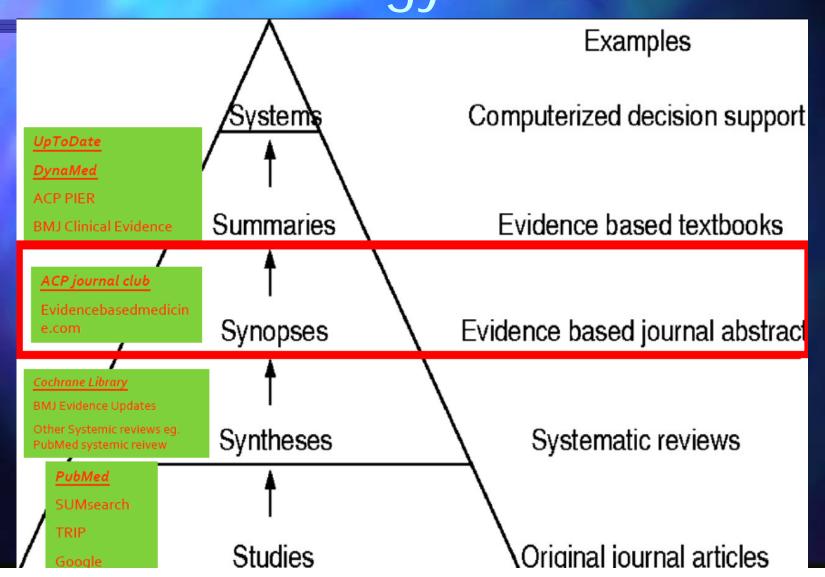
**Buccal mucosa** — Buccal mucosa cancers have a high tendency to recur locoregionally. Consequently, patients with buccal mucosa cancers have a worse survival rate compared with patients with cancer in other oral cavity subsites [21].

Exposure of a buccal mucosa cancer can be difficult via a transoral approach, which makes it difficult to obtain clear radial margins in an en bloc fashion. Furthermore, the thin distance between the buccal mucosa and the buccal space permits early invasion to deep structures or to anterior cheek skin. Exenteration of the buccal space, parotid, and skin is needed to maximize outcome, although this is achieved with a considerable cost to cosmesis.

Cancer of the buccal mucosa can be treated with definitive RT. However, deeply invasive cancers should be managed with surgery and postoperative RT. Regardless of the method of treatment, there is a high risk of severe, irreversible trismus. Aggressive reconstruction and rehabilitation is required to optimize functional outcomes. (See "Management of late complications of head and neck cancer and its treatment", section on 'Trismus'.)

Supportive care measures — Prophylactic tracheostomy is generally required for locoregionally advanced oral

# Search strategy: 5S model



# Synopses: ACP Journal Club



#### Search ACP Journal Club

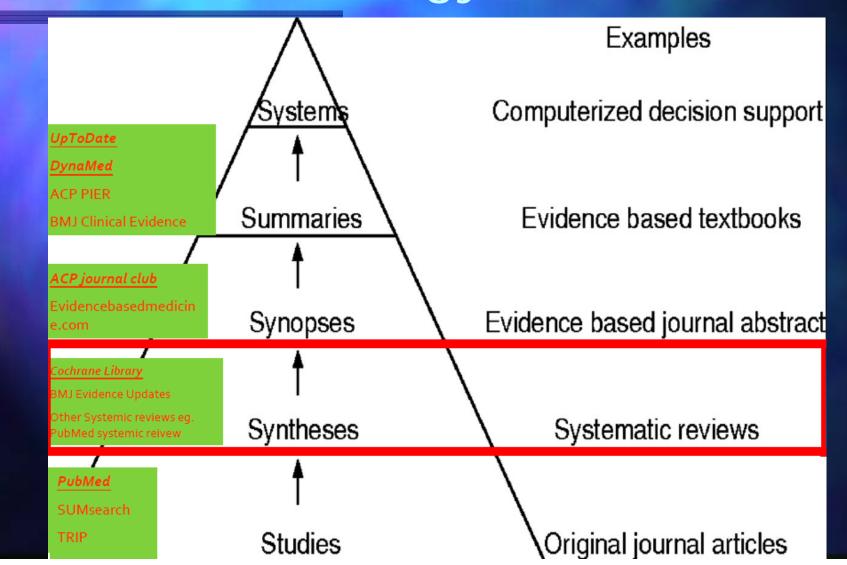
buccal cancer Search
Search Help

Your search - buccal cancer - did not match any documents.

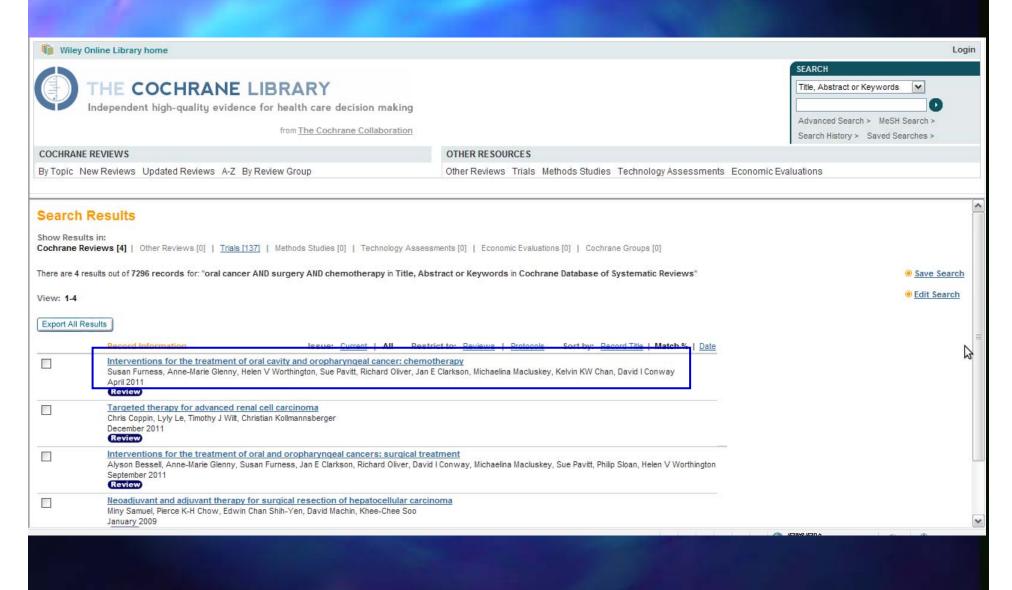
#### Suggestions:

- · Make sure all words are spelled correctly.
- Try different keywords.
- · Try more general keywords.

# Search strategy: 5S model



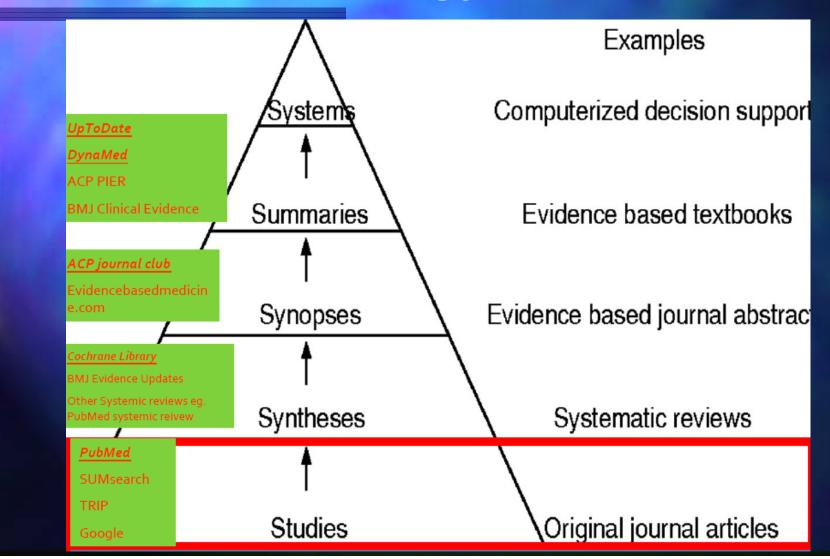
# Syntheses: The Cochrane Library



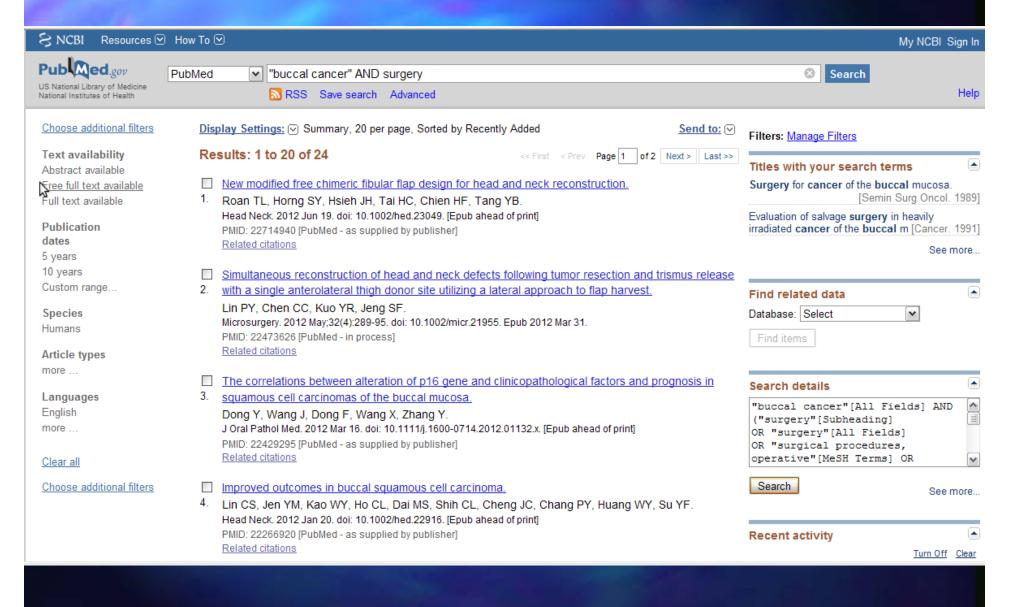
# Interventions for the treatment of oral cavity and oropharyngeal cancer: chemotherapy

 Chemotherapy, in addition to radiotherapy and surgery, is associated with improved overall survival in patients with oral cavity and oropharyngeal cancers. Induction chemotherapy may prolong survival by 8 to 20% and adjuvant concomitant chemoradiotherapy may prolong survival by up to 16%. In patients with unresectable tumours, concomitant or alternating chemoradiotherapy may prolong survival by 10 to 22%. There is insufficient evidence as to which agent or regimen is most effective and the additional toxicity associated with chemotherapy given in addition to radiotherapy and/or surgery cannot be quantified.

# Search strategy: 5S model



# Study: Pubmed



Display Settings: 

✓ Abstract

Send to: ∨

Head Neck. 2006 Feb;28(2):150-7.

### Squamous cell carcinoma of the buccal mucosa: an aggressive cancer requiring multimodality treatment.

Lin CS, Jen YM, Cheng MF, Lin YS, Su WF, Hwang JM, Chang LP, Chao HL, Liu DW, Lin HY, Shum WY.

Department of Radiation Oncology, Tri-Service General Hospital, National Defense Medical Center, 325 Section 2 Cheng-Kong Rd., Nei-Hu, Taipei, Taiwan, Republic of China.

#### Abstract

BACKGROUND: In our clinical practice, we have observed a high incidence of locoregional failure in squamous cell carcinoma (SCC) of the buccal mucosa. We analyze our treatment results of this cancer and compare these results with those in the literature. We intend to define the pattern and incidence of failure of buccal cancer and provide information for the design of a better multimodality treatment.

METHODS: During the period from 1983 through 2003, 121 previously untreated patients with M0 stage SCC of the buccal mucosa were treated with a curative intent at our hospital. Twenty-seven patients received surgery alone, 36 had radiotherapy alone, and 58 underwent surgery plus postoperative radiotherapy.

RESULTS: The 5-year locoregional control, overall survival, and cause-specific survival rates for all patients were 36.3%, 34.3%, and 36.9%, respectively. The locoregional recurrence rate was 57% for all patients, with 80% occurring in the primary site alone. Patients with T1-2N0 disease who received surgery alone still had a high local recurrence incidence of 41%. For patients with locally advanced disease, surgery plus postoperative radiotherapy achieved better overall survival and locoregional control rates than surgery alone or radiotherapy alone. T classification was the only prognostic factor affecting locoregional control and survival in the surgery alone group, whereas N classification and skin invasion predicted a poorer survival for the surgery plus postoperative radiotherapy group.

CONCLUSIONS: SCC of the buccal mucosa is an aggressive cancer with a high locoregional failure rate even in patients with T1-2N0 disease. Possible reasons include inadequate treatment and an intrinsically aggressive nature. Postoperative radiotherapy has resulted in a better locoregional control rate for patients with T3-4 or N+ disease and should also be considered for patients with T1-2N0 disease for whom adjuvant therapy after radical surgery currently is not recommended by most guidelines.

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PMID: 16200628 [PubMed - indexed for MEDLINE]

## CONCLUSIONS

- SCC of the buccal mucosa is an aggressive cancer with a high locoregional failure rate even in patients with T1-2NO disease. Possible reasons include inadequate treatment and an intrinsically aggressive nature.
  - Postoperative radiotherapy has resulted in a better locoregional control rate for patients with T3-4 or N+ disease and should also be considered for patients with T1-2N0 disease for whom adjuvant therapy after radical surgery currently is not recommended by most guidelines.

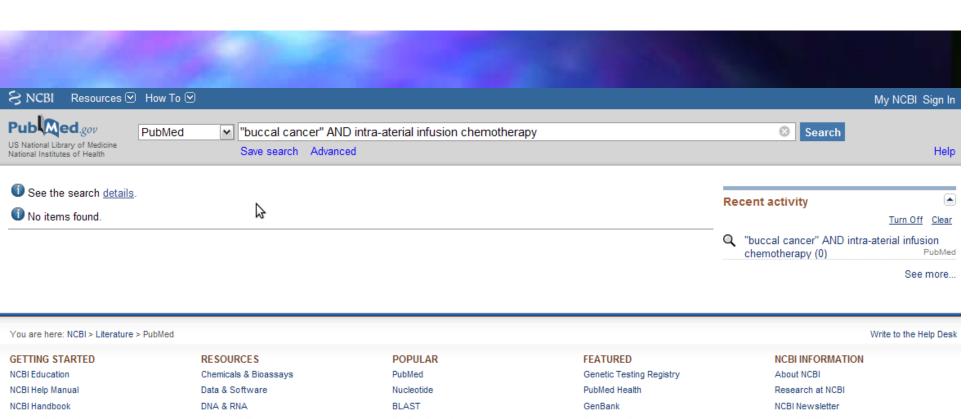
# Critical Appraisal

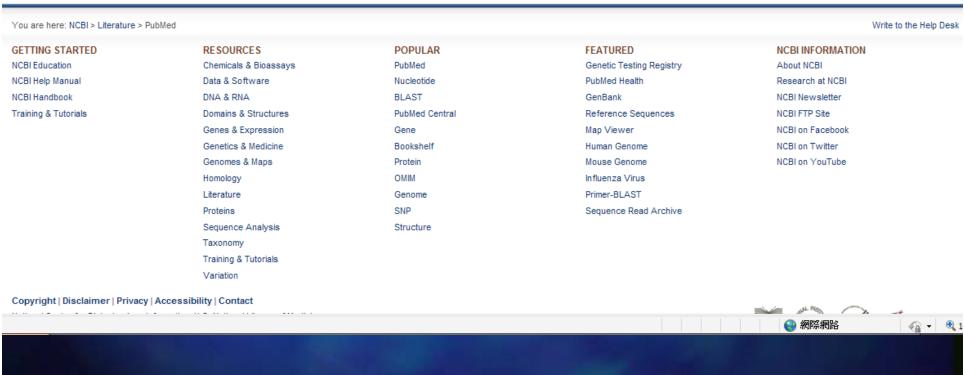
#### Oxford Centre for Evidence-based Medicine Levels of Evidence (May 2001)

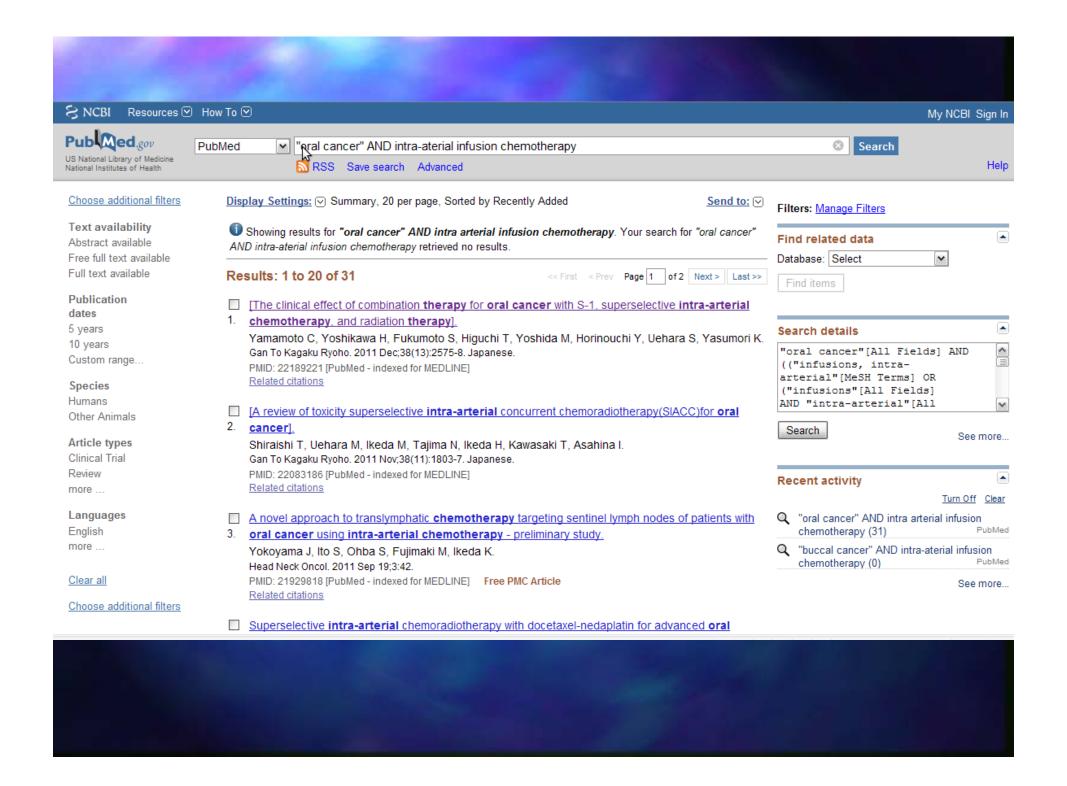
	T. (5. );		B:	Differential diamental description	I <b>F</b>
Level	Therapy/Prevention,	Prognosis	Diagnosis	Differential diagnosis/symptom	Economic and decision analyses
	Aetiology/Harm			prevalence study	
1a	SR (with homogeneity*) of RCTs	5K (with <u>nomogeneity</u> ) of inception	5K (with homogeneity) of Level i	5k (with homogeneity) of	5ਜ਼ 'with homogeneity*) of Level 1
		cohort studies, <u>CDR</u> validated in	diagnostic studies, CDR   with 1b	prospective cohort studies	ecor omic studies
		different populations	studies from different clinical centres		
1b	Individual RCT (with narrow	Individual inception cohort study with	Validating** cohort study with	Prospective cohort study with good	Ana ysis based on clinically sensible
	Confidence Interval‡)	≥80% follow-up; CDR1 validated in	good††† reference standards; or	follow-up****	cost : or alternatives, systematic
		a single population	CDR† tested within one clinical		revice(s) of the evidence; and
			centre		including multi-way sensitivity
					anal/ses
1c	All or none§	All or none case-series	Absolute SpPins and SnNouts††	All or none case-series	Abs lute better-value or worse-value
_					anal /ses ††††
2a	SR (with homogeneity*) of cohort	SR (with homogeneity*) of either	SR (with homogeneity*) of Level >2	SR (with homogeneity*) of 2b and	SR with homogeneity*) of Level >2
	studies	retrospective cohort studies or	diagnostic studies	better studies	ecor omic studies
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2b	Individual cohort study (including low	Retrospective cohort study or follow-	Exploratory** cohort study with	Retrospective cohort study, or poor	Ana ysis based on dinically sensible
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			standards	very limited population	estir rates of data, but including
			Statitualus		sensitivity analyses incorporating
					clini ally sensible variations.
4	Case-series (and poor quality cohort	Case-series (and poor quality	Case-control study, poor or non-	Case-series or superseded	Ana vsis with no sensitivity analysis
4	and case-control studies§§)	prognostic cohort studies***)	independent reference standard	reference standards	And you with no sensitivity analysis
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5	appraisal, or based on physiology,	appraisal, or based on physiology,	appraisal, or based on physiology,	appraisal, or based on physiology,	appraisal, or based on economic
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Produced by Bob Phillips, Chris Ball, Dave Sackett, Doug Badenoch, Sharon Straus, Brian Haynes, Martin Dawes since November 1993.

Evidence level: 4(case series)







Gan To Kaqaku Ryoho. 2011 Dec;38(13):2575-8.

# [The clinical effect of combination therapy for oral cancer with S-1, superselective intra-arterial chemotherapy, and radiation therapy].

[Article in Japanese]

Yamamoto C, Yoshikawa H, Fukumoto S, Higuchi T, Yoshida M, Horinouchi Y, Uehara S, Yasumori K.

Dept. of Dentistry, Oral and Maxillofacial Surgery, Clinical Research Institute, National Hospital Organization Kyushu Medical Center.

#### Abstract

Combination therapy with S-1, superselective intra-arterial infusion of CBDCA and radiation therapy has been used to treat patients with oral cancer since 2005. In this study, the histopathological effects and toxicities following concurrent chemoradiotherapy were examined. The subjects consisted of 15 patients (10 men and 5 women) who were treated with S-1 (60-80 mg/day, 4 weeks), superselective intra-arterial infusion of CBDCA (300 mg/body) and radiation therapy (total dose 30-36 Gy) in our department from 2005 to 2009. Nine patients, showed T2 disease, 3 showed T3 disease, and another 3 showed T4 diseases. The primary cancer sites were the tongue (6 cases), buccal mucosa (4 cases), mandible gingival (3 cases), maxillary gingiva (1 case), and the floor of the mouth (1 case). The histopathological effects were evaluated according to Oboshi-Shimosato classification. Grade IV was shown in 10 cases (66. 7%), grade III in 1 case (6. 7%), II bin 3 cases (20. 0%), and II a in 1 case (6. 7%). All patients completed the treatment. The pathological response of the resected tumor was grade Ilbor higher in 14 cases (93. 3%). While good histological effects were noted, there was one patient for whom viable tumor cells remained in the central part of the tumor. The present study indicates that further investigation is needed to determine the best dosing and dosing schedule.

PMID: 22189221 [PubMed - indexed for MEDLINE]

- Publication Types, MeSH Terms, Substances
- + LinkOut more resources

# Critical Appraisal

#### Oxford Centre for Evidence-based Medicine Levels of Evidence (May 2001)

	T. (5. );		B:	Differential diamental description	I <b>F</b>
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Produced by Bob Phillips, Chris Ball, Dave Sackett, Doug Badenoch, Sharon Straus, Brian Haynes, Martin Dawes since November 1993.

Evidence level: 4(case series)



Oral Oncol. 2010 Dec;46(12):860-3. Epub 2010 Nov 2.

## Superselective intra-arterial chemoradiotherapy with docetaxel-nedaplatin for advanced oral cancer.

Kobayashi W, Teh BG, Sakaki H, Sato H, Kimura H, Kakehata S, Nagahata M.

Department of Oral and Maxillofacial Surgery, Hirosaki University Graduate School of Medicine, 5-Zaifu-cho, Hirosaki 036-8562, Japan. wako@cc.hirosaki-u.ac.jp

#### **Abstract**

Cisplatin-based, superselective, intra-arterial chemotherapy concurrent with radiotherapy (SSIACRT) has gained wide acceptance as a common/curative treatment for advanced head and neck cancer. We combined nedaplatin (CDGP) with docetaxel (DOC) as a new combination in SSIACRT for advanced oral squamous cell carcinoma in 2003. Twenty-two patients with advanced oral cancer were treated by radiotherapy (66 Gy) concurrent with superselective intra-arterial DOC (40 mg/body) and CDGP (80 mg/m²) infusion between 2003 and 2009. Complete response was achieved in 18 (81.8%) of the 22 patients. Of the 17 patients with positive neck disease, 16 (94%) were assessed as disease-free. The 5-year overall survival rate was 78.5%, and the major adverse effects were leukocytopenia and mucositis. Five patients (22.7%) developed distant metastases post-treatment. These results indicate that intra-arterial docetaxel-nedaplatin infusion concurrent with radiotherapy is efficacious for advanced oral cancer. The side effects are easily manageable, and the most important outcome of the treatment is the preservation of patients' quality of life (QOL) and improved prognosis.

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PMID: 21050802 [PubMed - indexed for MEDLINE]

- **⊕** MeSH Terms, Substances
- ★ LinkOut more resources

# Critical Appraisal

#### Oxford Centre for Evidence-based Medicine Levels of Evidence (May 2001)

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Produced by Bob Phillips, Chris Ball, Dave Sackett, Doug Badenoch, Sharon Straus, Brian Haynes, Martin Dawes since November 1993.

Evidence level: 4(case series)

# Conclusion

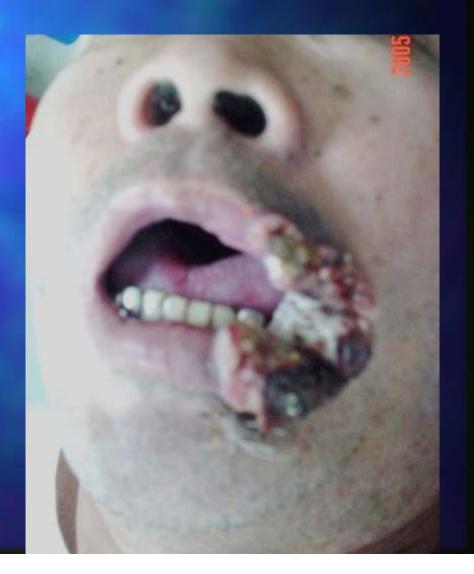
	Surgical treatment	IAIC
Treatment result	36.9%	78.5%
Recurrent rate	<b>一</b>	低
Function or cosmetic	需要重建	大部分不需要重建

# Apply to our patient

- Our patient is a case of left buccal carcinoma with mouth angle involved
  - To obtain the treatment result of complete remission, recoved without recurrence, and cosmetic benefits, intraarterial infusion chemotherapy would be a better choice of treatment compared to surgical excision
- Thus, we apply IAIC to our patient

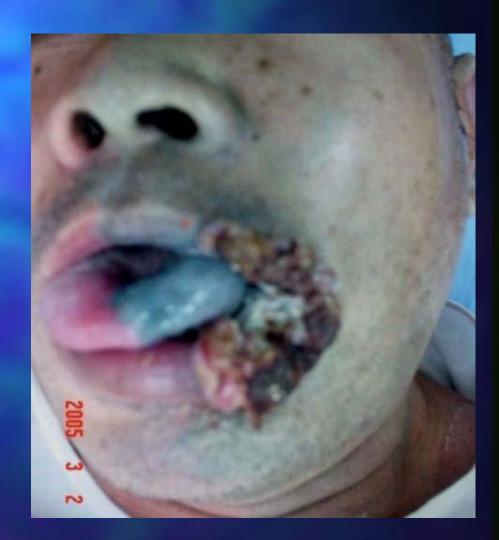
# Pre-intra-arterial Infusion Chemotherapy (2005/)

Before artery port implantation



## Patent blue test

After artery port implantation



# Post-intra-arterial Infusion Chemotherapy (2005)





# Audit - 「提出臨床問題」方面

- 我提出的問題是否具有臨床重要性?有
- 我是否明確的陳述了我的問題?
- 我的foreground question 是否可以清楚的寫成 PICO?可以
  - 我的background question是否包括what, when, how, who等字根?有
- · 我是否清楚的知道自己問題的定位?(亦即可以定位自己的問題是屬於診斷上的、治療上的、 預後上的或流行病學上的),並據以提出問題? 知道

# Audit - 「搜尋最佳證據」方面

- 我是否已盡全力搜尋?是
- 我是否知道我的問題的最佳證據來源? 是
  - 我是否從大量的資料庫來搜尋答案?是
- 我工作環境的軟硬體設備是否能支援我在遇到問題時進行立即的搜尋?是
- 我是否在搜尋上愈來愈熟練了?是

# Audit - 「嚴格評讀文獻」方面

- 我是否盡全力做評讀了?是
- 我是否了解Number need to treat 的意義?是
- 我是否了解worksheet每一項的意義?是
- 評讀後,我是否做出了結論?是

# Audit - 「應用到病人身上」方面

- 我是否將搜尋到的最佳證據應用到我的 臨床工作中?是
- · 我是否能將搜尋到的結論如NNT,LR用病人聽得懂的方式解釋給病人聽?是
- 當搜尋到的最佳證據與實際臨床作為不 同時,我如何解釋?須考量經濟、此次 住院目標、家屬期望

# Thanks for your attention