Factors of Delayed Diagnosis of Oral Cancer in Rajavithi Supertertiary Care Hospital

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บทคัดย่อ: ปัจจัยที่มีความสัมพันธ์ต่อการวินิจฉัยล่าช้ามะเร็งช่องปาก ในโรงพยาบาลระดับตติยภูมิ ราชวิถี

ธราธิป ลิขสิทธิพันธุ์ พ.บ., สมจินต์ จินดาวิจักษณ์ พ.บ.
ศูนย์การแพทย์เฉพาะทางด้านโสต ศอ นาสิกวิทยา โรงพยาบาลราชวิถี แขวงทุ่งพญาไท เขตราชเทวี กรุงเทพมหานคร 10400

วัตถุประสงค์: เพื่อศึกษาปัจจัยที่มีความสัมพันธ์ ต่อระยะเวลาการวินิจฉัยมะเร็งช่องปาก เนื่องจากผลการรักษามะเร็งช่องปากระยะเริ่มแรกมีอัตราการรอดชีวิตดีกว่ามะเร็งช่องปากระยะลุกลาม การวินิจฉัยล่าช้าเป็นปัจจัยหนึ่งที่มีผลต่อการเกิดลุกลามของโรค การศึกษาถึงปัจจัยที่มีผลต่อการวินิจฉัยจะเป็นประโยชน์ในการวางแผนยุทธศาสตร์เพื่อลดความล่าช้าดังกล่าว **วิธีการ:** ทำการศึกษาโดยการสัมภาษณ์ผู้ป่วยมะเร็งช่องปากที่เป็นผู้ป่วยใหม่ที่ห้องตรวจหู คอ จมูก ระหว่างเดือนตุลาคม 2560 – เมษายน 2561 จำนวน 136 ราย ผู้ป่วยที่ตอบแบบสัมภาษณ์ไม่สมบูรณ์จะถูกคัดออก โดยแบบสอบถามประกอบด้วย ข้อมูลทั่วไป ได้แก่ เพศ อายุ รายได้ การศึกษา สถานะ อาชีพ ประวัติการสูบบุหรี่ การดื่มสุรา การเคี้ยวหมาก ส่วนของข้อมูลเกี่ยวกับมะเร็งช่องปาก ได้แก่ ระยะเวลาตั้งแต่มีอาการจนมาพบแพทย์ ตำแหน่ง อาการ ระยะโรค การจัดการอาการเบื้องต้น และส่วนของการตรวจรักษาโดยแพทย์เบื้องต้น ได้แก่ วิธีการให้การตรวจรักษาครั้งแรก ปัจจัยต่างๆได้รับการวิเคราะห์ทางสถิติโดยใช้ SPSS ปัจจัยต่างๆ ได้รับการวิเคราะห์โดย univariate analysis และวิเคราะห์โดย binary logistic regression ปัจจัยที่มีความสัมพันธ์อย่างมีนัยสำคัญทางสถิติ ในการวิจัยนี้ค่าสถิติมีนัยสำคัญที่น้อยกว่า 0.05 **ผล:** ทำการศึกษาในผู้ป่วย 136 ราย เพศชาย 77 ราย และเพศหญิง 59 ราย อายุเฉลี่ย 60 ปี (ช่วงอายุ 17-86 ปี) ระยะเวลาเฉลี่ยในการวินิจฉัยหลังจากเริ่มมีอาการใช้เวลามากกว่า 5 สัปดาห์ มีผู้ป่วยมะเร็งช่องปากร้อยละ 11 ได้รับการวินิจฉัยภายใน 4 สัปดาห์ ปัจจัยที่ทำให้เกิดความล่าช้า ได้แก่ การสังเกตอาการด้วยตัวเองก่อนไปโรงพยาบาล ($p<0.05$; OR 4.7; 95% CI:1.02-21.9) และผู้ป่วยที่มีอายุมากกว่า 60 ปี ($p<0.05$; OR3.4; 95% CI:1.02-11.31) นอกจากนี้ยังมีปัจจัยทางด้านแพทย์คือ การรักษาครั้งแรกด้วยยา ($p<0.01$;OR7.9;95%CI:2.65-23.88) และการสังเกตอาการ ($p<0.01$; OR 6.0; 95% CI: 2.03-17.68) และจากการวิเคราะห์พหุตัวแปรพบว่าการสังเกตอาการเบื้องต้นด้วยตัวคนไข้เองเป็นปัจจัยที่ส่งผลต่อการวินิจฉัยล่าช้ามากที่สุด ($p<0.41$; 95% CI:1.07-24.06) **สรุป:** ในขณะที่การเข้าถึงข้อมูลโรคมะเร็งสามารถทำได้หลายวิธีด้วยเทคโนโลยีและสื่อสารมวลชน แต่การวินิจฉัยมะเร็งช่องปากล่าช้ายังคงเป็นปัญหาของผู้ป่วยที่ได้รับการส่งต่อมาที่ รพ.ราชวิถี ปัจจัยที่มีผลต่อความล่าช้าได้แก่ การสังเกตอาการของผู้ป่วย อายุ การไม่ได้รับการวินิจฉัยตั้งแต่ระยะเริ่มแรก เพื่อลดความล่าช้าในการวินิจฉัย จึงต้องมีการให้ความรู้ในเรื่องของอาการเตือนตั้งแต่ระยะเริ่มแรกแก่สาธารณชน โดยเฉพาะในผู้สูงอายุ การตรวจค้นหามะเร็งช่องปากด้วยตนเองเป็นการเพิ่มประสิทธิภาพการสังเกตอาการด้วยตนเอง และแพทย์ผู้ที่มีโอกาสพบผู้ป่วยมะเร็งช่องปากตั้งแต่ระยะเริ่มแรกควรมีความรู้และมีการจัดการตั้งแต่ผู้ป่วยมาพบในช่วงต้นได้

คำสำคัญ: ความล่าช้าในการวินิจฉัย มะเร็งช่องปาก การตรวจช่องปากด้วยตนเอง ความล่าช้าโดยผู้ป่วย ความล่าช้าโดยแพทย์

Abstract

Objective: To identify the factors related delayed diagnosis of oral cancer in the Era of digital technology 2018. **Methods:** Related information is collected by interview and statistical analyzed. **Results:** Out of the 136 patients, 77 were males, 59 females. The median age was 60 years old (ranged 17-86). The average time of diagnosis after patient recognition was more than 5 weeks. 11% of oral cancer patients were diagnosed within 4 weeks. The delayed diagnosis was caused by the patients which were self-observed the symptoms before visiting the hospital ($p<0.05$; OR 4.7; 95% CI: 1.02-21.9) and those with 60 years of age or older ($p<0.05$; OR3.4; 95% CI: 1.02-11.31). In addition, delayed factors by physician were first time treatment by medication ($p<0.01$; OR 7.9; 95% CI: 2.65-23.88) and by observation ($p<0.01$; OR 6.0; 95% CI: 2.03-17.68). **Conclusion:** While the data of cancer knowledge can be accessed by many varieties of digital technology and social media, the delayed diagnosis of oral cancer is still the problem of referred patients in Rajavithi Supertertiary Hospital. The delayed factors were self-observation, age, and lack of intervention by physician at early stage. To decrease the delay of diagnosis, early warning sign of oral cancer should be promoted for public awareness, particularly for older persons. Oral self-examination to detect oral cancer should be available to improve the efficiency of self-observation. It is also advisable that medical profession be recognize to early stage oral cancer lesion for early intervention.

Keywords: Delay diagnosis, Oral cancer, Oral self-exam, Patient delay, physician delay

Introduction

Global Statistic 2018 reported incidence of oral cancer in male and female which were 5.8 and 2.3 ASR respectively which was 13th most common cancer in male with mortality 2.8 ASR (12th of mortality rate from cancer in male). The delayed diagnosis is one of the factor that affect survival from the changing of staging from early stage to advanced stage. Robb[1] reported public cancer awareness in Britain that Recall of cancer symptoms was good for the classic tumor symptom of lump/swelling (68%), but very poor for all other symptoms include sore that does not heal (5%) which is the early symptoms of early cancer . The program to promote of cancer awareness in population in England was created since 2006 together with the guideline from National Institute for Health and Care Excellence (NICE) for refer of suspected cancer and recommended of appointment within 2 weeks for primary health care worker.

The histological reports collected by biopsy is the gold standard for diagnosis of oral cancer and AJCC 2018 was used to staging of cancer. Oral cancer is the most common Head and neck cancer in Thailand, and is one of the common cancer in Thai population which the Thailand Cancer Registry vol IX, 2013-2015[2] reported of 6th common cancer in male with 5.5 ASR and 10th common cancer in female with 4.3 ASR. In Rajavithi supertertiary care hospital where the referred of head and neck cancer from provincial hospitals all over the countries, were estimated 300 oral cancer patients each year. The proportion of advanced stage is substantially more than early stage and the pattern of the stage is not decrease over decades. These advanced stage of oral cancer patients need the multidisciplinary team for treatment with the poor outcome compare to the early stage which the outcome is better while the treatment need only one modality.

Although the data of risk factors, sign and symptoms of oral cancer can easily access by digital technology and social media such as internet, LINE, TV etc, most of the oral cancer patients were diagnosed with advanced stage. Kerdpon[3] reported delayed diagnosis of oral cancer in southern Thailand that mean patient delay of 90.6 days and mean professional delay of 51.2 days . Traditional herbal medication use was significantly associated with prolonged patient delay (hazard ratio [HR] 0.46, 95% CI 0.28–0.76). Buddhists had shorter total delay than Muslims (HR 0.68, 95% CI 0.49–0.95). The present

study indicates that both patients and health care profession are responsible for the diagnostic delay in the year 2001. The lack of the data of oral cancer awareness in Thai population and the specific strategies and policy for shorter the delayed of oral cancer diagnosis is still the present problems in health care system.

So the author is interested in study of factors that affect the delay of diagnosis which included the data of cancer awareness of these patients and also explore the physician factors, so the result from this study will be benefit for policy maker to decrease the delay in diagnosis of oral cancer which will improve survival of oral cancer patients in Thailand.

Materials and Methods

The prospective study was performed at outpatient ENT department at Rajavithi supertertiary hospital during October 2017- April 2018 by interview the first diagnosed untreated oral cancer patients in Rajavithi supertertiary hospital who can complete the questionnaires and excluded the incomplete questionnaires. This research was review and approved by Institutional Review Board Committee of Rajavithi Hospital. Written informed consent was obtained from all participants. The data of sex, age, income, education, marital status, employed status, occupation, history of smoking, drinking alcohol, betel nut chewing, duration of time from patient recognition of symptom to first time to see a physician, site of oral cancer, stage, management of the first visit of physician were collected at outpatient department . That all parameters collected by review articles [3-10]

The delayed group was defined as patients delayed and physician delayed. The duration from patient recognition oral lesion to visit physician more than 2 weeks is defined to patients delayed and physician decided biopsy more than 2 weeks is defined to physician delayed due to changing of stage by report of Brouha[11]

The statistically analysis by The IBM SPSS statistic. The descriptive data was analyzed by mean and percentage. And the categorical data was compared by Chi-square test/Fisher Exact test. Factors affected the delayed of diagnosis were calculated by Univariate Analysis which further binary Logistic Regression for the statistically significant factors . The p-value of less than 0.05 was statistically significant in this study.

Results

There were 136 oral cancer patients were included with 77 (57%) males and 59 (43%) female. The data as shown in Table 1, most of the oral cancer patients were more than 60 years of age, unemployed 48%, income less than 10,000 baht 55%, married status 57% and education less than secondary school 89%.

The symptom presented at first visit to see physician were pain 55%, mass in oral cavity 16.2% and bleeding from oral lesion 2.2%. Site of oral cancer was tongue 48.5%, floor of mouth 15.4%, alveolar ridge 15.4%, hard palate 8.8%, buccal 7.4, lip 2.9% and retromolar trigone 1.5%. Risk factors were alcohol drinking 66.2%, smoking 64% and betel nut chewing 26.5%. The average time of diagnosis after patient recognition is more than 5 weeks. 11% of oral cancer patients were diagnosed within 4 weeks.

Table 1 Descriptive data of oral cancer patients

Factors	n (%)
Sex	
Male	77 (56.6)
Female	59 (43.4)
Age (Years), mean±SD	59.6±13.5
15-30	3 (2.2)
31-45	17 (12.5)
46-59	45 (33.1)
≥ 60	71 (52.2)
Symptom at presentation	
Pain	36 (26.5)
Bleeding	3 (2.2)
Ulcer	75 (55.1)
Mass in oral cavity	22 (16.2)
Duration of patient recognition to first see physician (weeks)	
<2	15(11.0)
>2	121(89.0)
Site of oral cancer	
Tongue	66(48.5)
Alveolar ridge	21 (15.4)
Floor of mouth	21 (15.4)
Hard palate	12 (8.8)
Buccal	10 (7.4)
Lip	4 (2.9)
Retromolar trigone	2 (1.5)

Analysis between the delayed and non-delayed group in table 2 as shown. All of 20 factors were analyzed by binary logistic regression between delayed and non-delayed group. Age, marital status and self-observed management were associated with delayed diagnosis. Oral cancer patients with age more than 60 years were delayed with odds ratio of 3.41 (95% CI (1.03-11.32) p=0.045), self-observed management before diagnosis associated with delayed by odds ratio 4.74 (95% CI (1.02-21.91) p=0.047). And married status were less likely to delayed with odds ratio of 0.24 (95% CI (0.06-0.91) p=0.036). And then, multivariate analysis shows the self-observed management before diagnosis is the highly associated with delayed diagnosis of oral cancer by odds ratio 5.07 (95% CI (1.07-24.063) p=0.041)

Table 2 Factors associated with the delayed diagnosis of oral cancer

Factors	n (%)		p-value	OR (95%CI)
	Delayed	Non-Delayed		
Sex				
Male: Female ratio	1.28	1.5	0.779	0.855(0.287-2.553)
Age (years)				
≥ 60	67(55.4)	4(26.7)	0.045*	3.412(1.029-11.319)
Unemployed				
	60(49.6)	5(33.3)	0.241	1.967(0.635-6.097)
Marital status				
Single	17 (14.0)	5 (33.3)		1
Married	72 (59.5)	5 (33.3)	0.036*	0.236(0.061-0.909)
Widow	25 (20.7)	2 (13.3)	0.145	0.272(0.047-1.568)
Divorce	7 (5.8)	3 (20.0)	0.661	1.457(0.271-7.821)
Education				
At least High school	109 (90.1)	12 (80.0)	0.24	2.271(0.56-9.20)
Smoking History				
	79 (65.3)	8 (53.3)	0.366	1.646(0.558-4.852)
Alcohol drinking				
	81 (66.9)	8 (53.3)	0.296	1.772(0.600-5.232)
Betel Nut History				
	32 (26.4)	4 (26.7)	0.985	0.989(0.294-3.328)
Income (Baht)				
5001-10000	28 (52.8)	6 (66.7)	0.588	1.607(0.288-8.964)
>10000	10 (18.9)	1 (11.1)	0.824	0.750(0.060-9.418)
Travel to Hospital				
By Public transportation	91 (75.2)	11 (73.3)	0.874	1.103(0.327-3.723)
Self-management				
by observation				
	51 (42.1)	2 (13.3)	0.047*	4.736(1.024-21.910)
Knowledge of risk factor				
	117 (96.7)	14 (93.3)	0.523	2.089(0.218-20.028)
Knowledge of oral cancer				
	49 (40.5)	10 (66.7)	0.062	0.34(0.11-1.057)
T-stage (T3-T4)	80 (66.1)	7 (46.7)	0.146	2.230(0.756-6.580)
Staging				
1	11 (9.1)	1 (6.7)	0.404	0.273(0.013-5.768)
2	21 (17.4)	5 (33.3)	0.789	0.714(0.061-8.397)
3	24 (19.8)	3 (20.0)	0.453	0.375(0.029-4.859)
4	62 (51.2)	5 (33.3)	0.254	0.242(0.021-2.775)

*Statistically significant at p<0.05

Table 3 Multivariate analysis factors associated with the physician delayed diagnosis of oral cancer

Factors	p-value	OR(95%CI)
Age > 60 years	0.077	3.116(0.886-10.960)
Marital status married	0.185	0.446(0.135-1.473)
Self-management by observation	0.041*	5.074(1.070-24.063)

*Statistically significant at p<0.05

For the physician delayed in Table 4, the delayed result in the group of physician who prescribed medication at the first time of patient consulted with odds ratio of 7.96 (95% CI (2.65-23.88) p<0.001) and the postpone of biopsy compared with the immediately biopsy management with odds ratio of 6.00 (95% CI ((2.035-17.687) p=0.001).

Table 4 Subgroup analysis of delayed diagnosis by physician

Factors	n (%)		p-value	OR (95%CI)
	Delayed	Non-delayed		
Management by physician at the first time to see patients				
Medication	70.0	22.7	<0.001*	7.961(2.654-23.881)
Observation	0.0	5.3	0.576	1.282(1.149-1.429)
Biopsy	30.0	72.0	0.001*	6.000(2.035-17.687)
T-stage (T1-T2)	40.0	36.0	0.742	0.844(0.307-2.319)
Early Staging	35.0	32.0	0.799	0.874(0.309-2.470)

*Statistically significant at p<0.05

Discussion

Problem of delayed diagnosis of oral cancer was reported by Kerdpon[3] in the 2001 that 74% of the oral cancers in this study was delayed (defined as more than 30 days from first recognition of lesion to diagnosis) which from the patient was estimated 90.6 days and physician delay was estimated 51.2 day and factor that affect was the usage of alternative treatment by herb before diagnosis in advanced stage. In this study by the year 2018 that author expected that the access of hospital service and digital data that Thai population all over the country can find these facilities, whether the delayed diagnosis is the problems or not. The study demonstrated that 121 out of 136 observed the oral lesion more than 3 weeks before going to hospital and most of the patients were in advanced stage.

Factors affect the delayed diagnosis that were reported by Pitiphat[5] studied in 105 patients by pretested questionnaire showed that former smoker had 4.3 times greater risk of delayed diagnosis compared with current smoker and the length of delay was greater among single patients, non-smoker or those with stage IV tumor. In this study, the risk factors for cancer which were smoking, alcohol drinking and betel nut chewing did not demonstrate the different between groups. Onizawa[4] reported that the delayed by initial professional, initial visit to a dentist, T1 cancer which was in the same direction of the result in this study. Scott[8] reported of behavior delayed which was from the patient such as self-medication, Delayed seeking help and not known warning sign compared with the data in this study, patient age more than 60 years and self-observation management were at risk of delayed diagnosis while married status was non delayed compared with delayed group. As in subgroup analysis by age showed that the group of patient age >60 years, most of them were unemployed, low education, low income and no knowledge about oral cancer. These group of patient which will be high proportion of population in Thailand in aging society which reported by ministry of public health that 20% of population by 2018 so the oral cancer problems of cancer awareness and early diagnosis will lead for the policy in healthcare management of Ministry of Public Health in the near future to decrease the delayed of diagnosis of oral cancer. The physician delay in this study found that the initial physician who aware of risk factors and the highly suspicious of oral cancer performed biopsy at first time will shorter the delayed so the knowledge of early cancer lesion or premalignant lesion should be recognized

or the criteria of high risk lesion to be referred for the physician who will be the primary physician to see these patients such as dentist, general practice, family doctor, health worker would be the strategies for shorter the delay.

This study has limitation of the groups of participant were the advanced stage of oral cancer due to the Rajavithi Hospital is the supertertiary care and is the major hospital for the referred cases in the universal coverage scheme from the provincial hospital. The early stage cancer would be treated in provincial hospital and only the advanced case would be referred, so the problems of cancer awareness in population should be the future direction for the study to collect the data for decision making of the policy in this area for shorter the delayed diagnosis of oral cancer. The small number of non-delayed groups which was a problem in the power of interpretation.

Conclusion

While the data of cancer knowledge can be accessed by many varieties of digital technology and social media, the delayed diagnosis of oral cancer is still the problem of referred patients in Rajavithi Supertertiary Hospital. The significant delayed factor were self-observation management and lack of intervention by physician at early stage.

The delayed diagnosis of oral cancer is still a problem of care process in the management even though the knowledge and data of oral cancer can easier access compare with the heath care service and data from previously reported of the delayed diagnosis in Thailand. The strategy for shorter the delayed diagnosis especially for the aging population will improved the outcome of oral cancer patients.

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