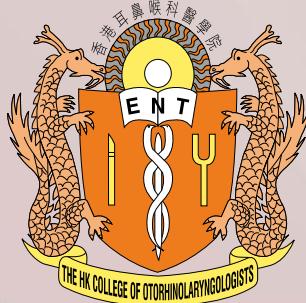


香港耳鼻喉科醫學院

THE HONG KONG COLLEGE OF OTORHINOLARYNGOLOGISTS



ANNUAL SCIENTIFIC MEETING

Saturday, November 9, 2019

Pao Yue Kong Auditorium, Ground Floor
Hong Kong Academy of Medicine, Jockey Club Building
99 Wong Chuk Hang Road, Aberdeen, Hong Kong

Programme & Abstract
Booklet

PROGRAMME

11:30 – 17:30 ANNUAL SCIENTIFIC MEETING

11:30	REGISTRATION	
12:15	TRAINEE RESEARCH PRESENTATION COMPETITION 2019	
12:15 – 12:30	Adductor Spasmodic Dysphonia – A Single Centre Retrospective Review and Evaluation of Impact on Vocal Quality with Unilateral Low Dose Botulinum Toxin Injection <i>Dr Ethel Ho-ching LAM</i> <i>ENT, Kowloon Central Cluster, Hospital Authority</i>	A1
12:35 – 12:50	Radiation-induced Sarcoma in Head and Neck Region – A Retrospective Study in a Regional Tertiary Hospital <i>Dr Samuel Chung-chie CHENG</i> <i>ENT, New Territories East Cluster, Hospital Authority</i>	A2
12:55 – 13:10	BiZact versus Bipolar Electrocautery Tonsillectomy in Paediatric Patients <i>Dr Yu-ho TANG</i> <i>ENT, Kowloon West Cluster, Hospital Authority</i>	A3
13:15 – 13:30	Can We Downscale the Extent of Neck Dissection in Nasopharyngeal Carcinoma Patients with Nodal Failure? A Local Institutional Review <i>Dr Shirley Cheuk-ling WONG</i> <i>ENT, New Territories West Cluster, Hospital Authority</i>	A4
13:35 – 13:50	SMARCB1 (INI1)-deficient Sinonasal Carcinoma: A Local Case Series for Chinese Population <i>Dr Ronald Man-fung CHIANG</i> <i>ENT, Hong Kong West Cluster, Hospital Authority</i>	A5
13:55 – 14:10	Dose Regimen Effect of Intratympanic Dexamethasone Therapy for Idiopathic Sudden Sensorineural Hearing Loss <i>Dr Ronald Ying-kit CHUI</i> <i>ENT, Kowloon Central Cluster, Hospital Authority</i>	A6
14:15 – 14:35	COFFEE/TEA BREAK	
14:35 – 14:50	Routine Ventilation Tube Insertion at the time of Cleft Palate Repair in Patients with Otitis Media with Effusion: Risk and Benefit <i>Dr Alan Tsz-lun LAU</i> <i>ENT, Hong Kong West Cluster, Hospital Authority</i>	A7
14:55 – 15:10	External Auditory Canal Squamous Cell Carcinoma (EACSCC) with History of Nasopharyngeal Carcinoma (NPC) - A Retrospective Review on Clinical Manifestation and Management in the New Territories East Cluster in Hong Kong <i>Dr Po-ling CHAN</i> <i>ENT, New Territories East Cluster, Hospital Authority</i>	A8

15:15 – 15:30	PRESENTATION BY THE WINNER OF THOMAS CHEUNG FUND 2018 OF THE HONG KONG SOCIETY OF OTORHINOLARYNGOLOGY, HEAD & NECK SURGERY
	Mass Eye And Ear Temporal Bone Dissection Course 2019 Dr Ronald LAI <i>ENT, Kowloon East Cluster, Hospital Authority</i>
15:35 – 16:10	PRESENTATION OF RESEARCH PROJECTS BY FELLOW IN POST-FELLOWSHIP HEAD AND NECK SURGERY TRAINING OF THE HONG KONG COLLEGE OF OTORHINOLARYNGOLOGISTS
15:35 – 15:50	Methylation of Tumour Suppressor Genes as Biomarkers in Head and Neck Squamous Cell Cancers Dr Zenon Wing-chi YEUNG <i>ENT, Joint New Territories East Cluster and Kowloon East Cluster, Hospital Authority</i>
15:55 – 16:10	Primary Lymphoepithelioma-like Carcinoma of Salivary Glands in Hong Kong Dr Julian Kay-chung YAU
16:15 – 16:35	COFFEE/TEA BREAK
16:35 – 17:30	GUEST LECTURE
	Guest Speaker Dr the Honourable Pierre CHAN <i>Member of the Legislative Council of Hong Kong</i>
	Topic Retaining Staff in Public Sector
	Moderators Dr Chi-man NGAI <i>Censor-in-Chief, The Hong Kong College of Otorhinolaryngologists</i>
	Dr Anthony Tsun-cheong CHU <i>Council Member, The Hong Kong College of Otorhinolaryngologists</i>
17:30	END OF PROGRAMME
17:45	ANNUAL GENERAL MEETING (For College Fellows Only)

ABSTRACT

A1

Adductor Spasmodic Dysphonia – A Single Centre Retrospective Review and Evaluation of Impact on Vocal Quality with Unilateral Low Dose Botulinum Toxin Injection

Dr Ethel Ho-ching LAM

ENT, Kowloon Central Cluster, Hospital Authority

Introduction

Spasmodic dysphonia is a focal dystonia characterized by task-specific, action-induced spasm of the vocal fold musculature. There are three subtypes (namely adductor, abductor, mixed) and this study will focus on the most common subtype – adductor spasmodic dysphonia (AdSD), accounting for 90% of cases.¹ Abnormal hyperadduction of the vocal folds in patients with AdSD causes a strained-strangled quality of voice and involuntary disruption of speech. It remains one of the most inveterate and disabling dysphonia, significantly impairing patient's ability to speak and communicate on a daily basis.

The injection of botulinum neurotoxin (BoNT) into the thyroarytenoid-vocalis complex is currently the only treatment recognized by the American Academy of Otolaryngology – Head and Neck Surgery as a safe and effective primary therapy for AdSD. The clinical effects last approximately 3-4 months on average², therefore re-injections are required regularly to maintain clinical benefits. At present, published literature has been inconclusive whether unilateral or bilateral injection is more effective.^{3,4} There is also no recommendation or clinical guideline on the optimal dosage of injection, with the doses of Botox® used varies significantly ranging from 2.5 U up to 50 U in different studies.^{5,6}

In our centre a low dose, unilateral injection has become a more preferable practice, because of shorter duration as well as fewer post-injection adverse effects - namely breathiness of voice and aspiration of liquids. It is not associated with post-treatment total voice loss unlike in bilateral injections. Smaller dosing also signifies a reduced antigenic challenge - diminishing the potential risk of immunoresistance and secondary non-response as a result of anti-BoNT antibodies formation.² In this study, we have evaluated the vocal outcomes of a low dose, unilateral onabotulinum toxin A (Botox®) injection in patients with AdSD. Furthermore in view of the paucity of research on this uncommon voice disorder in the local population, we have reviewed and studied the characteristics of 31 patients with AdSD who have received treatment in our centre over the last 11 years.

Study design and method

Between July 2008 and July 2019, a total of 31 patients with AdSD received treatment in Queen Elizabeth Hospital were identified. Patients' demographics, medical, social and family history, significant life events, age of onset, symptomatology, dosage of botulinum toxin-A received, number of injections, results and side effects of treatment were reviewed.

In addition, 16 patients with AdSD received a transcutaneous injection of 2.5 units of onabotulinum toxin A (Botox[®]) into the left thyroarytenoid-vocalis complex under flexible fibreoptic laryngoscopic guidance. All of them did not receive any injection in the previous 12 months to ensure a sufficient washout period. Vocal function was measured, by both subjective rating scales and objective tests, immediately prior to and at two time points after the injection - 2 weeks and 3 months respectively. Subjective evaluation tools included the validated Voice Handicap Index (VHI-10) questionnaire⁷, and perceptual evaluation namely GRBAS (grade, roughness, breathiness, asthenia, strain) scale and the Cantonese Perceptual Evaluation of Voice (CanPEV).⁸ Objective assessments comprised both aerodynamic and acoustic parameters, including maximum phonation time, percentages of jitter, shimmer, noise-to-harmonic ratio, fundamental frequency, cepstral peak prominence and cepstral spectral index of dysphonia.

SPSS for Mac version 24 was used to analyse the collected data. Statistical analyses were performed using the Wilcoxon signed rank test for paired variables to compare the pre- and post-injection voice quality outcomes.

Results

In the series of 31 patients with adductor spasmodic dysphonia having follow-up in our centre from 2008 to 2019, there was a female predominance of 93.5%. Age range at onset was 21 to 84 years with a median age of 59 years. 6.4% (2 out of 31) had a positive family history affecting first degree relatives. 25.8% of patients directly associated onset of spasmodic dysphonia symptoms to an upper respiratory tract infection, and 22.5% to a major life stress, although there might be a component of recall bias. 19.3% had co-existing vocal tremor and 87% reported aggravation of symptoms with stress or anxiety.

In the group of 16 who received a unilateral 2.5 U Botox[®] injection, statistical analyses demonstrated that the VHI-10 and perceptual evaluation scores by GRBAS and CanPEV, both 2 weeks and 3 months after injection, were significantly lower compared to the pre-injection values. In particular there was a significant reduction in the number of phonatory breaks per sentence after

injections. Acoustic parameters including percentage of jitter, noise-to-harmonic ratio, cepstral peak prominence and cepstral spectral index of dysphonia showed statistically significant voice improvement at 2 weeks and 3 months after treatment, although some abnormal acoustic characteristics remained. Maximum phonation time increased at 2 weeks and 3 months after injection but the improvement was not significant. Patients experienced an average of 4.6 days (range 1-10 days) of breathiness or hoarseness before noticing improvement of speech with reduction in phonatory breaks. None of them suffered from total voice loss. 31.2% also had mild aspiration of liquids for 2 to 7 days.

Conclusions

Our study suggested there is significant voice improvement in AdSD patients after injection of small dose botulinum toxin into unilateral thyroarytenoid-vocalis complex. Also with a reduced total drug used, benefit of treatment is evident within two weeks and adverse effects are fewer and better tolerated by patients. Further studies with a larger sample size and collaboration among centres are necessary to validate the optimal treatment and to improve our understanding on this debilitating voice disorder.

References

1. Patel AB et al. *The Mayo Clinic Arizona Spasmodic Dysphonia Experience: A demographic analysis.* Ann Otol Rhinol Laryngol 2015;124:859-865
2. Blitzer A et al. *Laryngeal Dystonia: A 30-Year Experience.* Laryngoscope January 2018;128:S1-S9
3. Upile T et al. *Unilateral versus bilateral thyroarytenoid Botulinum toxin injections in adductor spasmodic dysphonia: a prospective study.* Head Face Med 2009;5:20
4. Bielamowicz S et al. *Unilateral versus bilateral injections of Botulinum toxin in patients with adductor spasmodic dysphonia.* J Voice 2002, 16(1):117-23
5. Blitzer A, Sulica L. *Botulinum toxin: basic science and clinical uses in otolaryngology.* Laryngoscope 2001;111:218-26
6. Jankovic J et al. *Botulinum toxin treatment of cranial-cervical dystonia, spasmodic dysphonia, other focal dystonias and hemifacial spasm.* J Neurol Neurosurg Psychiatry 1990;53:633-9
7. Lam PK et al. *Cross-cultural adaptation and validation of the Chinese Voice Handicap Index-10.* Laryngoscope 2006 Jul;116(7):1192-8
8. Law T et al. *The construction of the Cantonese perceptual evaluation of voice (CanPEV): the content validation process.* The 4th World Voice Congress Proceedings 2010.

ABSTRACT

A2

Radiation-induced sarcoma in head and neck region – A retrospective study in a regional tertiary hospital

Dr Samuel Chung-chie CHENG

*Department of Otorhinolaryngology, Head & Neck Surgery
New Territories East Cluster, Hospital Authority*

Background

Radiation-induced sarcoma (RIS) is a known complication of radiation therapy, which is one of the most common treatment modalities for head and neck cancers. One is diagnosed to have such disease if all the following three criteria are fulfilled. Firstly, there is history of radiation exposure at least 6 months before the development of sarcoma. Secondly, the sarcoma arises within the previous radiation field. Thirdly, there is a pathologic confirmation of the sarcoma that is histologically different from the primary cancer. RIS has an aggressive behavior and usually presents late. The tumor often has close proximity to adjacent important structures in head and neck. These often make the management of the disease challenging. The complications of previous radiation therapy, for example, trismus, xerostomia, osteoradionecrosis and neck fibrosis, also affect treatment plans and outcomes.

Objective

This study investigates the clinical presentations, anatomical locations, histological subtypes and management outcomes, including resection margin status and survivals, of patients who have history of radiation therapy for head and neck cancers with subsequent RIS.

Methods

Patients who had head and neck RIS, and managed in Department of Otorhinolaryngology, Head & Neck surgery, Prince of Wales Hospital from 2009 to 2018 are reviewed. Patients having history of management of the disease at private hospitals with inadequate clinical data are excluded.

Results

In our study, the interval between radiation therapy and the diagnosis of RIS ranges from 4.5 to 20 years. Lifelong follow-up for patients after radiation therapy is therefore required to detect the occurrence of RIS. Sarcoma NOS (Not otherwise specified) is the most common subtype of RIS. Achieving a clear resection margin (R0 resection) has statistically significant survival benefit compared to microscopically positive resection margin status (R1 resection). Patients with advanced staging (T4a) had a significant worse overall survival than those with T1-3 combined.

Conclusions

Lifelong follow-up for patients after radiation therapy for head and neck cancers is required to detect RIS, which could happen more than a decade after radiation therapy. Clear-margin resection is very important for the survival of RIS patients. Patients with advanced RIS also had a significant worse overall survival than those with lower stagings.

ABSTRACT

A3

BiZact versus Bipolar Electrosurgery Tonsillectomy in Paediatric Patients

Dr Yu-ho TANG

ENT, Kowloon West Cluster, Hospital Authority

Background:

Tonsillectomy is one of the most commonly performed otorhinolaryngological procedures on paediatric patients. There are different methods of tonsillectomy, including cold dissection and hot dissection with different energy devices. BiZact is one of the newest available devices. It uses adjustable bipolar energy for hemostasis. It consists of a handpiece with scissors which combines compression and cutting, resulting in shorter operation time and minimal tissue damage.

This study was conducted to compare BiZact with bipolar electrocautery tonsillectomy in paediatric patients.

Methods:

This was a retrospective study reviewing all pediatric patients who had undergone tonsillectomy in Kowloon West Cluster from May, 2018 to May, 2019. BiZact was introduced to our cluster in 2018 and was offered to patients as a self-financed item. The operation time, intraoperative blood loss, post-operative hemorrhage and days to return to a normal diet were evaluated.

Results:

37 patients between the ages 3 to 16 had tonsillectomy plus adenoidectomy performed with energy devices. 13 patients had BiZact tonsillectomy and 24 had bipolar electrocautery tonsillectomy. The mean operative times were 34.9 and 69 minutes ($p=0.018$). Intraoperative blood loss was 7.15ml and 15.6ml ($p=0.065$). 1 patient had primary hemorrhage from adenoids in BiZact group. None in both groups had post tonsillectomy hemorrhage.

Conclusion:

BiZact tonsillectomy is significantly faster than bipolar electrocautery tonsillectomy without increasing postoperative complications.

ABSTRACT

A4

Can We Downscale the Extent of Neck Dissection in Nasopharyngeal Carcinoma Patients with Nodal Failure? A Local Institutional Review

Dr Shirley Cheuk-ling WONG

ENT, New Territories West Cluster, Hospital Authority

Introduction

Residual or recurrent neck nodal disease of nasopharyngeal carcinoma (NPC) patients is traditionally managed with radical neck dissection (RND), which is associated with numerous morbidities. As the trend to individual-tailored neck dissection for head and neck tumours evolves, one ponders its application in patients with NPC, which is a separate pathological entity.

Subjects and method

This single-centre retrospective study reviews the clinical and pathological outcomes of NPC patients in our institution who had undergone salvage RND for residual or recurrent neck disease after primary treatment. In particular, the pre-operative assessment of extent of lymph node involvement is compared to that of the final specimen.

Results

14 RNDs were performed in NPC patients with operable and cytology-proven residual (2) or recurrent (12) nodal disease from 2005 to 2018. All cases were pre-operatively staged with positron emission tomography-computed tomography (PET-CT), while some were additionally evaluated with ultrasound or magnetic resonance imaging (MRI). Most patients had early-stage recurrence. The nodal levels that were pre-operatively judged to be involved were most commonly levels II (50%) and V (42.8%). The same nodal levels were involved in the final histopathological specimen in equal distribution (42.8% each). The sensitivity of pre-operative assessment in this study of nodal levels II and V were 100%. The overall negative-predictive value was 93.4%.

Conclusion

Our review shows promising correlation between pre-operative and final histopathological extent of nodal involvement for patients with residual or recurrent NPC. PET-CT is a useful modality in pre-operative planning.

ABSTRACT

A5

SMARCB1 (INI1)-deficient sinonasal carcinoma: a local case series for Chinese population

Dr Ronald Man-fung CHIANG

ENT, Hong Kong West Cluster, Hospital Authority

Background

Sinonasal malignancies are rare neoplasms in the head and neck region with great diversity. Tumours are conventionally classified by their histology and features on immunohistochemical markers. With knowledge in carcinogenesis, there is an increasing number of tumour entities based on their genetics features. This carries precise information on tumour biology with implications to treatment and prognosis. SMARCB1 (INI1)-deficient sinonasal carcinoma, first described by Agaimy et al in 2014, is one of the family of the SMARCB1 (INI1)-deficient neoplasms which include atypical teratoid/rhabdoid tumour (AT/RT) in central nervous system and epithelioid sarcoma. They are characterized by the loss of INI1 expression, due to inactivation of the tumour suppressor SMARCB1 gene. They also have similar appearance on histomorphology. Up till now, there are less than 60 cases of this new disease entity were reported, with the largest series of 39 cases in US and only one was reported in China.

Objective

To evaluate the local data for SMARCB1 (INI1)-deficient sinonasal carcinoma and report on the clinical demographics

Study design

A single-centre retrospective case series

Method

Pathological specimens of sinonasal malignancy from 2003 to 2019 in Hong Kong West Cluster were retrieved from archive. Additional analysis with immunohistochemical staining of INI1 was performed. Clinical demographic data were obtained from the electronic patient record system.

Results

Pathological specimens of 29 patients were retrieved and analyzed. 7 patients (5 males, 2 females) were identified as SMARCB1 (INI1)-deficient sinonasal carcinoma with median age of 44 (range 31 – 64). All were locally advanced diseases (one T3; six T4), involving the ethmoid sinus the most. No patient was presented with nodal or distant metastasis. All patients received curative surgery and/or chemoirradiation. In the follow-up period of 6 – 119 months (mean 33.5 months), 3 patients recurred and 1 died. On retrospective review, sinonasal undifferentiated carcinoma (3/7) was the most common original histological diagnosis.

Conclusion

SMARCB1 (INI1)-deficient sinonasal carcinoma is now recognized as a new entity for sinonasal malignancies. They carry distinct tumour biology and clinical demographics. Long term follow-up data is required for further analysis of their course of disease.

ABSTRACT

A6

Dose Regimen Effect of Intratympanic Dexamethasone Therapy for Idiopathic Sudden Sensorineural Hearing Loss

Dr. Ronald Ying-kit CHUI

ENT, Kowloon Central Cluster, Hospital Authority

Background:

Idiopathic sudden sensorineural hearing loss (ISSNHL) is a well-recognized otological disease which can have a significant impact on patients' quality of life. Systemic corticosteroid therapy has been the mainstay of treatment for ISSNHL. In recent years, intratympanic steroid therapy (ITS) has also become a standard of treatment. Suggested by American Academy of Otorhinolaryngology - Head and neck surgery (AAO-HNS), intratympanic steroid therapy is now an optional initial therapy and also recommended as a salvage therapy for patients with incomplete recovery.¹ Higher concentrations of dexamethasone appear to have better outcomes, however the ideal dosing and frequency of injections remain unclear.²

At Queen Elizabeth Hospital, we provide ITS therapy according to the AAO-HNS guideline. Since July 2018, we have implemented a change in the intratympanic dexamethasone dose regimen. There was an adjustment from dexamethasone 4mg/ml given twice a week for four injections to dexamethasone 10mg/ml given every two days for four injections. This change aimed attain better patient recovery and facilitate patient care in our daily clinical settings.

Objective:

To compare audiotmetric outcomes in patients with ISSNHL treated with different intratympanic dexamethasone regimens.

Methodology:

This is a retrospective cohort study carried out in a tertiary referral center. Adults diagnosed with first episode of unilateral sudden sensorineural hearing loss and treated with intratympanic dexamethasone as primary or salvage therapies between January to December 2018 were considered. Magnetic resonance imagings were performed to rule out retrocochlear pathologies. A total of 57 patients were eventually included in this study after an exclusion process. The baseline characteristics and audiotmetric results between the two groups receiving different intratympanic dexamethasone regimens were compared.

Results:

Statistical analysis demonstrated a significant difference in the improvement of mean pure tone audiogram between the two cohort groups. The results favoured the group which received intratympanic dexamethasone 10mg/ml given every two days for four injections.

References

- Chandrasekhar SS, Tsai Do BS, Schwartz SR, et al. Clinical Practice Guideline: Sudden Hearing Loss (Update). *Otolaryngology-Head & Neck Surgery*. 2019;161:S1-S45. doi:10.1177/0194599819859885.
- Alexander TH, Harris JP, Nguyen QT, Vorasubin N. Dose effect of intratympanic dexamethasone for idiopathic sudden sensorineural hearing loss: 24 mg/mL is superior to 10 mg/mL. *Otol Neurotol*. 2015;36:1321-1327.

ABSTRACT**A7**

Ventilation Tube Insertion at the time of Cleft Palate Repair in Patients with Otitis Media with Effusion

Dr Alan Tsz-lun LAU*ENT, Hong Kong West Cluster, Hospital Authority***Background:**

Cleft palate has a strong association with the incidence of otitis media with effusion (OME). Up to 97% of infants born with cleft palate suffer from concurrent OME in the first two years of life¹. Subsequent hearing loss may affect speech and language development in the early stages of life. Rosenfeld et al.² suggested ventilation tube insertion (VTI) when OME has persisted for at least 3 months or is associated with type B tympanograms. Nevertheless, the decision for ventilation tube insertion needs to be individualized and discussed with parents in view of possible future complications and recurrence. More Hong Kong data are needed to facilitate discussion with parents about the risks and benefits. In this study, patients with persistent OME at the time of cleft palate repair with ventilation tube inserted at the same time are studied. Risk of recurrence, complications and persistence of conductive hearing loss are studied.

Design:

Single-centre retrospective review

Method:

Patients with cleft palate repair performed between 2005 to 2014 in Queen Mary Hospital are identified. Outcomes measured include the recurrence of OME, need for subsequent VTI, risks of ear infection, persistent tympanic membrane perforation, tympanosclerosis, tympanic membrane retraction and the hearing outcome up to 5 years of age.

Results:

75 patients had undergone cleft palate repair in this cohort with the exclusion of patients with cleft palate repair beyond 3 years old, less than 3 years of follow-up, sensorineural hearing loss and syndromic patients. 54 patients (72.0%) had persistent OME at the time of cleft palate repair and required VTI at the same time. Among these 54 patients, 15 (27.8%) patients had recurrence of OME and 7 (13.0%) required subsequent VTI. 11 (20.4%) patients had experienced at least one episode of ear infection and 6 (11.1%) had persistent tympanic membrane perforation. 11 (20.4%) patients had tympanic membrane retraction and 3 (5.6%) patients had tympanosclerosis. Persistent conductive hearing loss at 5 years of age was present in 12 patients (22.2%).

Conclusion:

In treatment of infants with persistent OME and cleft palate, risks and expectation of VTI are important elements to be discussed with parents. Continuous follow-up is also necessary for the observation of complications and hearing.

References

1. Dhillon RS. The middle ear in cleft palate children pre and post palatal closure. *J R Soc Med* 1988; 81:710–713.
2. Rosenfeld, R. M., Shin, J. J., Schwartz, S. R., Coggins, R., Gagnon, L., Hackell, J. M., ... & Poe, D. S. (2016). Clinical practice guideline: otitis media with effusion (update). *Otolaryngology—Head and Neck Surgery*, 154(1_suppl), S1-S41.

ABSTRACT

A8

External Auditory Canal Squamous Cell Carcinoma (EACSCC) with History of Nasopharyngeal Carcinoma (NPC) - A Retrospective Review on Clinical Manifestation and Management in the New Territories East Cluster in Hong Kong

Dr Po-ling CHAN

ENT, New Territories East Cluster, Hospital Authority

Nasopharyngeal carcinoma(NPC) is not uncommon with distinct geographical prevalence in southern Chinese population. Radiotherapy being the first line treatment of NPC, there is recorded post-irradiative induced squamous cell carcinoma of external auditory canal (EACSCC) worldwide. Comparing with primary EACSCC with an incidence of one to six per million per annum globally, it is believed that the clinical features, prognosis and survival outcomes differ from one another.

Objective:

To describe and analyze the clinical characteristics, prognostic factors, treatment modalities and survival outcomes between post-irradiative EACSCC and primary EACSCC patients in the New Territories East Cluster (NTEC) in Hong Kong.

Methods:

Sixty patients with external auditory canal (EAC) malignancy were identified between January, 1998 – December, 2018 (20 years). Thirty-two patients had histological proof of squamous cell carcinoma in EAC were analyzed for clinical presentation, treatment modalities (open surgery, endoscopic assisted transcanal approaches (EATA), radiotherapy and chemotherapy) and survival rates. Pittsburgh Staging System was adopted for staging EACSCC. Progression free survival(PFS) was estimated by Kaplan–Meier method with the use of Log rank test for assessment of prognostic factors on PFS. P-value of <0.05 was considered statistically significant.

Results:

Out of thirty-two EACSCC patients, Fifteen patients had history of NPC(46.9%). Mean age at presentation was 58.8 and 68.8 years for EACSCC with history of NPC and primary EACSCC respectively.

Male to female ratio was 25:7. Twenty-nine patients underwent surgery(90%), in which five patients were using EATA(17%). Twenty patients received radiotherapy (15 had post-operative radiotherapy; 3 had palliative radiotherapy and 2 received radical radiotherapy and chemotherapy). Eleven patient (of 29 patients; 37.9%) had recurrent

EACSCC, with median recurrent months as 10.9(range: 3-32 months). There was no evidence of recurrence in EATA group(follow-up 2-22 months). A median follow-up was 23 months. Median PFS was 49 months. Advanced stage of history of NPC($p=0.01$), advanced stage of EACSCC($p=0.013$), facial nerve palsy at presentation($p=0.002$), and margin involved after resection($p=0.039$) were significant predictors of poor PFS.

Conclusion:

A significant proportion of EACSCC patients had history of NPC with irradiation in our cluster. Advanced staging in EACSCC, history of locoregionally advanced NPC, and facial nerve palsy at presentation reflected poor survival outcomes. EATA surgery showed a promising disease-free survival in early follow-up.

References

1. Lobo D., L.J.L., and Suarez C, *Squamous cell carcinoma of the external auditory canal*. *Skull Base*, 2008. 18(3): p. 167-172.
2. Shih L, C.J., *Carcinoma of the external auditory canal: an update*. *Laryngoscope*, 1990. 100(11): p. 1215-8.
3. Gidley P.W., D.F., *Lateral Temporal Bone Resection* ., in *Temporal Bone Cancer*. . 2018: Springer, Cham.
4. Moody SA, H.B., Myers EN , *Squamous cell carcinoma of the external auditory canal: an evaluation of a staging system* . Am J Otol., 2000. 21(4): p. 582-8.
5. Morton R.P., S.P.M., and Derrick P.P., *Epidemiology of cancer of the middle ear cleft*. *Cancer* 1984. 53: p. pp. 1612-1617.
6. Jing Wang, B.X., and Chunfu Dai, *Clinical Characteristics and Management of External Auditory Canal Squamous Cell Carcinoma in Post-Irradiated Nasopharyngeal Carcinoma Patients*. *Otology & Neurotology*, 2015. 36(6): p. 1081-1088.