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Incidental Cancers in Asymptomatic Adults: Role of Otorhinolaryngologist in Routine Health Checkup

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Abstract

Background: Cancer that is diagnosed at an early stage, when it is not too large and hasn't spread, is more likely to be treated successfully. Hence the role of preventive health checkup with inclusion of detailed examination by Otorhinolaryngologist becomes significant in detection of incidental head and neck and thyroid cancers.

Method: A cross-sectional study was conducted among 29,302 subjects aged 18 years and above who underwent whole body checkup in a tertiary care hospital during the study period. They were subjected to interview and detailed examination by Otorhinolaryngologist to estimate the number of incidental head and neck and thyroid cancers among apparently normal adults using standard guidelines. Categorical data was summarized as frequencies with percentages.

Result: The study was able to detect 12 incidental head and neck and thyroid cancers in asymptomatic subjects of which Papillary carcinoma of thyroid(33.33%) was the most commonly detected cancer followed by hypopharyngeal cancer(25%) while maxillary sinus cancer, parapharyngeal Tumour, Nasopharyngeal cancer and oropharyngeal cancer and Non Hodgkin Lymphoma contributed for 8.33% each. Cervical lymph node metastasis was noted in 37.5% of head and neck cancers and 50% cases of papillary carcinoma of thyroid. Head and neck cancers showed male preponderance with increased incidence at 60 years of age while papillary carcinoma of thyroid showed female preponderance with increased incidence between 40 to 50 years of age.

Conclusion: Based on the results from this study it is evident that periodic health checkup with emphasis on detailed ear, nose and throat examination by inclusion of Otorhinolaryngologist as part of preventive health care team can help in a significant way in early detection of incidental cancers in apparently healthy adults thereby saving many lives.

Keywords: Incidental cancers; Health checkup; Otorhinolaryngologist

Introduction

Cancer is the second leading cause of death globally and is responsible for an estimated 9.6 million deaths in 2018 [1]. Head and neck cancer are the sixth most common cancer worldwide, with 6,30,000 new diagnoses annually and 3,50,000 deaths per year while thyroid cancer is the fifth most common cancer among women [2,3]. In general, there is a consensus that about 60 percent of cancer deaths can be prevented with improved preventive and screening facilities [4,5]. The goal of cancer screening and early detection is to cure cancer by detecting the malignancy, or its precursor lesion, at an early stage prior to onset of symptoms, when treatment of cancer is most effective and Periodic health checkup precisely helps in serving this purpose. In addition to

detecting such diseases before a patient turns seriously ill, such periodic checkups also enable health care providers to assess health risks and advise patients on lifestyle and dietary measures to counter such risks. All general health checks share a common goal: to reduce morbidity and mortality by detecting disease or modifiable risk factors at an earlier stage-implicitly if this will improve clinical outcomes compared with waiting until symptoms develop [6].

General health checks are regularly performed in the USA and UK, with the National Health Service Health Check program being introduced in the UK in 2009 [7]. Health Check programs have also been initiated in the Netherlands and Australia [8]. Existing knowledge has conflicting outcomes. Some studies [9-13] are on the positive end of the spectrum, noting that screening for multiple diseases at once was beneficial both in the long and short run, substantially reducing mortality due to disease. But

few studies [14-16] found that there was no substantial gain from such screening.

Most health check packages do not necessarily include detailed ENT examination by Otorhinolaryngologist and subjects are referred to them only when the subjects specifically complain of symptoms pertaining to ear, nose or throat and this leads to failure in identification of early lesions until development of symptoms when it may be too late for treatment and this defeats the objective of health checkup. In this study, we aim to study the prevalence of incidental head and neck and thyroid cancers detected during routine health checkup in apparently healthy subjects who underwent health screening for complaints not pertaining to ear, nose or throat and to assess the significance of detailed ENT examination including indirect laryngoscopic examination in asymptomatic subjects and the role of Otorhinolaryngologist in preventive health care.

Materials and Methods

A cross-sectional descriptive study was conducted from January 2016 to December 2019 among 29,302 subjects, both male and female, aged 18 years and above who opted for whole body health checkup package which includes detailed ear, nose and throat examination by an Otorhinolaryngologist. To ensure that any malignancies discovered were truly incidental, subjects with known or suspected malignancy or with history of ENT surgery or with any symptoms pertaining to ear, nose or throat were excluded.

The nature and purpose of the study was clearly explained to the participants in the language they comprehend, and a written informed consent was obtained. Doctor and patient confidentiality were strictly adhered to. A structured questionnaire was used to record basic demographic data including age, gender, address, primary complaints which the participant presented with and ear, nose, and throat symptoms if any.

The study participants were subjected to following biochemical investigations under whole body checkup- Hemoglobin, fasting blood sugar, postprandial blood sugar, HbA1c, blood urea, serum creatinine, serum uric acid, lipid profile, liver function tests, Thyroid stimulating hormone(TSH), HbsAg, serum calcium and phosphorus, serum electrolytes, complete urine analysis, stool test, Tread mill test, Echocardiogram, X ray Chest, Pulmonary function test(Spirometry), Ultrasound of abdomen, Pap smear and mammogram(for women), Clinical examination and advice by physician, Surgical examination for men and Gynecologist consultation for women, Cardiologist, Ophthalmologist, Otorhinolaryngologist and Dental Consultations and diet counselling.

Detailed evaluation (including indirect laryngoscopic examination) was carried out by Otorhinolaryngologist who is part of the preventive health care team and subjects with suspicious lesions were subjected to further investigations such as Flexible Fiberoptic Laryngoscopy, High Resolution Contrast Tomography of Neck and Chest, Fine needle Aspiration Cytology and Lymph node biopsy following which diagnosis of malignancy was confirmed. The subjects underwent appropriate treatment (Surgery and /or Radiotherapy) tailored for individual case. Prevalence of incidental malignancies in apparently asymptomatic subjects detected for the first-time during health check by Otorhinolaryngologist was calculated.

Results

Among the 29,302 subjects who underwent whole body health checkup package, 12 of them were detected with malignancies.

Sex predilection

Of the 12 cases of incidental malignancies, nine were male while three were female (Figure 1).

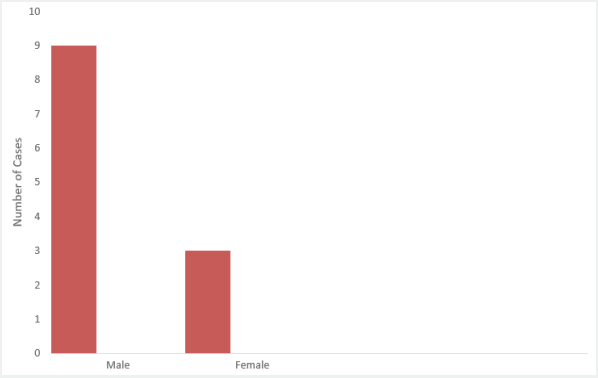

Figure 1: Sex Predilection.

Age predilection

Of the 12 cases of incidental malignancies, all the subjects were over 40 years of age with equal distribution in the range of age groups between 40-50, 50-60 and 60-70 years (Figure 2).

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Types of malignancies

Papillary carcinoma of thyroid was the most common malignancy to be detected incidentally in four apparently asymptomatic subjects followed by hypopharyngeal malignancy in three subjects. One case each of Nasopharyngeal cancer, Oropharyngeal cancer, Maxillary sinus cancer, Parapharyngeal tumor (Schwannoma) and Non-Hodgkin Lymphoma (Small cell type) of Infra parotid node were also diagnosed for the first time (Figure 3).

Figure 2: Age Predilection.

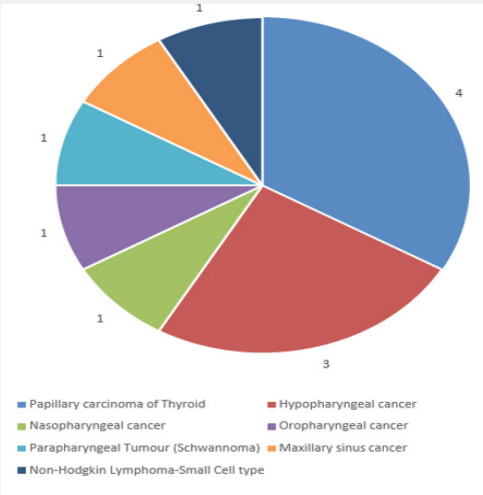

Figure 3: Types and Number of Malignancies.

Cervical node metastasis

Of the 12 cases, three (37.5%) of the head and neck cancer and two (50%) of the thyroid cancer cases had cervical node metastasis.

Prevalence rate

In our study, the prevalence rate of incidental malignancies detected in asymptomatic adults was calculated as 0.000409%.

Discussion

Most head and neck cancer cases (60%) are locally advanced at the time of diagnosis (stage III or IV) [17]. A cancer diagnosis at an advanced stage worsens survival, quality of life, and patient experience [20]. Furthermore, it increases healthcare costs due to more expensive treatments, higher toxicity, and symptom burden [21]. Few studies suggest that while screening in the general population does not appear to be useful, screening high risk groups by examination of the throat might be useful [22]. Incidental thyroid cancers are frequently determined in early stages with more favorable histopathological features and better prognosis [23].

There are numerous studies about diagnosis of incidental cancers detected in healthy individuals during screening by imaging [24-25] and incidental thyroid cancers [26]. However, studies on incidental cancers detected by clinical examination in asymptomatic subjects during routine health check are sparse. In this study, number of incidental cancers were detected in apparently healthy subjects undergoing general health checkup for complaints not related to ear, nose and throat and

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all such cancers could be detected only due to detailed clinical examination including indirect laryngoscopic examination performed for all subjects in spite of lack of symptoms carried out by Otorhinolaryngologist who was part of the preventive care team.

The male to female ratio reported by large scale epidemiological studies and national cancer registries varies from 2:1 to 15:1 depending on the site of disease [27]. In this study, all incidental head and neck cancers were detected in men. Thyroid cancer was the most frequent incidental cancer detected in women. Papillary carcinoma of thyroid was most common thyroid cancer detected in all three female subjects in this study of which one of them had cervical lymph node metastasis. A single male subject was diagnosed with papillary carcinoma of thyroid also had cervical lymph node metastasis. Papillary carcinoma tends to metastasize early to local lymph nodes with 50% of patients having nodal involvement at presentation [28] and this finding was confirmed in our study too.

All the subjects diagnosed with incidental head and neck cancers were above 50 years of age, the mean age being 60 years which is consistent with another study which states that the incidence of head and neck cancers increases after sixth decade [29]. Since squamous cell carcinoma constitutes the preponderance of primary malignancies of the head and neck, it is by far the most common tumor that spreads to the cervical nodes [30]. In this study, 37.5% of cases of incidental head and neck cancer and 50% of papillary carcinoma of thyroid had cervical lymph node metastasis.

Further studies are required for post treatment follow up of the subjects diagnosed with such incidental cancers to analyze the impact of early detection in reducing the morbidity associated with the disease in the long term which are beyond the scope of the present study. Also, there is need for research to study the prevalence of such incidental cancers in other parts of the body detected during routine health check.

Conclusion

This study shows that number of subjects undergoing routine health check for complaints unrelated to cancer are being diagnosed with head and neck and thyroid malignancy incidentally. An incidental cancer diagnosis during general health check translates to early detection of an invasive tumor, less invasive treatment and reduced economic burden due to cancer. Thus, the inclusion of Otorhinolaryngologist as an essential part of preventive health care team becomes significant so as not to miss even minute asymptomatic or pre-symptomatic cancers and provide preventive health care in the truest sense.

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References

1. World Health Organization (2018) World Statistics Report. Geneva.
2. Parkin DM, Bray F, Ferlay J, Pisani P (2005) Global cancer statistics, 2002. CA Cancer J Clin 55(2): 74-108.
3. Pellegriti G, Frasca F, Regalbuto C, Squatrito S, Vigneri R (2013) Worldwide increasing incidence of thyroid cancer: update on epidemiology and risk factors. J Cancer Epidemiol 2013: 965212.
4. Battista RN, Grover SA (1988) Early detection of cancer: an overview. Annu Rev Public Health 9: 21-45.
5. Colditz GA, Wei EK (2012) Preventability of cancer: The relative contributions of biological and social and physical environmental determinants of cancer mortality. Annual Review of Public Health 33: 137-156.
6. Thompson S, Tonelli M (2012) General health checks in adults for reducing morbidity and mortality from disease [editorial] Cochrane Database Syst Rev 1(1): CD009009.
7. Holland W (2009) Periodic health examination-a brief history and critical assessment. Eurohealth 15: 16-20.
8. Si S, Moss JR, Sullivan TR, Newton SS, Stocks NP (2014) Effectiveness of general practice-based health checks: a systematic review and meta-analysis. Br J Gen Pract 64: e47-53.
9. Rodríguez Jareño MC, Molinero E, Montserrat J, Vallès A, Aymerich M (2015) How much do workers' health examinations add to health and safety at the workplace? Occupational preventive usefulness of routine health examinations. Gac Sanit 29: 266-273.
10. Friedman GD, Collen MF, Fireman BH (1986) Multiphasic Health Checkup Evaluation: a 16-year follow-up. J Chronic Dis 39(6): 453-463.
11. Sathiyamoorthi S, Anand DP, Muthunarayanan L (2019) Is Master Health Checkup the Answer to Tackle the Rising Non-Communicable Disease Burden in India? - A Cross-Sectional Study. J Lifestyle Med 9(2): 111-118.
12. Tibblin G, Welin L, Larsson B, Ljungberg IL, Svärdsudd K (1982) The influence of repeated health examinations on mortality in a prospective cohort study, with a comment on the autopsy frequency. The study of men born in 1913. Scand J Soc Med 10(1): 27-32.
13. Boulware LE, Marinopoulos S, Phillips KA, Hwang CW, Maynor K, et al. (2007) Systematic review: the value of the periodic health evaluation. Ann Intern Med 146(4): 289-300.
14. Krogsbøll LT, Jørgensen KJ, Grønhøj Larsen C, Gøtzsche PC (2012) General health checks in adults for reducing morbidity and mortality from disease. Cochrane Database Syst Rev 10: CD009009.
15. Theobald H, Bygren LO, Carstensen J, Hauffman M, Engfeldt P (1998) Effects of an assessment of needs for medical and social services on long-term mortality: a randomized controlled study. Int J Epidemiol 27(2): 194-198.
16. Krogsbøll LT, Jørgensen KJ, Gøtzsche PC (2019) General health checks in adults for reducing morbidity and mortality from disease. Cochrane Database Syst Rev 1(1): CD009009.
17. Seiwert TY, Cohen EE (2005) State-of-the-art management of locally advanced head and neck cancer. Br J Cancer 92(8): 1341-1348.
18. Silver JK, Raj VS, Fu JB, Eric M Wisotzky, Sean Robinson Smith, et al. (2015) Cancer rehabilitation and palliative care: critical components in the delivery of high-quality oncology services. Support Care Cancer 23(12): 3633-3643.

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19. Laudicella M, Walsh B, Burns E, Smith PC (2016) Cost of care for cancer patients in England: evidence from population-based patient-level data. Br J Cancer 114(11): 1286-1292.

20. World Health Organization (2014) World Cancer Report 2014.

21. Kwee RM, Kwee TC (2019) Whole-body MRI for preventive health screening: A systematic review of the literature. J Magn Reson Imaging 50(5): 1489-1503.

22. Ulus S, Suleyman E, Ozcan UA, Karaarslan E (2016) Whole-Body MRI Screening in Asymptomatic Subjects; Preliminary Experience and Long- Term Follow-Up Findings. Pol J Radiol 81: 407-414.

23. Evranos B, Polat SB, Cuhaci FN, Husniye Baser, Oya Topaloglu, et al. (2019) A cancer of undetermined significance: Incidental thyroid carcinoma. Diagn Cytopathol 47(5): 412-416.

24. Lee SY, Park HJ, Kim MS, Rho MH, Han CH (2018) An initial experience with the use of whole-body MRI for cancer screening and regular health checks. PLoS One 13(11): e0206681.

25. Kang KW, Kim SK, Kang HS, Eun Sook Lee, Jung Suk Sim, et al. (2003) Prevalence and risk of cancer of focal thyroid incidentaloma identified by 18F-fluorodeoxyglucose positron emission tomography for metastasis evaluation and cancer screening in healthy subjects. J Clin Endocrinol Metab 88(9): 4100-4104.

26. Maturo A, Tromba L, De Anna L, G Carbotta, G Livadoti, et al. (2017) Incidental thyroid carcinomas. A retrospective study. G Chir 38(2): 94-101.

27. Mehanna H, Paleri V, West CM, Nutting C (2010) Head and neck cancer--Part 1: Epidemiology, presentation, and prevention. BMJ 341: c4684.

28. Wunderbaldinger P, Harisinghani MG, Hahn PF, Gilbert H Daniels, Karl Turetschek, et al. (2002) Cystic lymph node metastases in papillary thyroid carcinoma. AJR Am J Roentgenol 178(3): 693-697.

29. da Lilly Tariah OB, Somefun AO, Adeyemo WL (2009) Current evidence on the burden of head and neck cancers in Nigeria. Head Neck Oncol 1: 14.

30. Okura M, Aikawa T, Sawai NY, Iida S, Kogo M (2009) Decision analysis and treatment threshold in a management for the N0 neck of the oral cavity carcinoma. Oral Oncol 45(10): 908-911.

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