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Pathological distribution of neck node metastasis

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Abstract
Introduction
The presents of metastatic nodal disease always remains major prognostic factor in head & neck cancer. This reduces patient survival. Metastasis can result from recurrent nodal disease, distal metastasis or a second primary tumour in spite of control the primary tumour. Nodal metastasis is the strongest prognosticator of recurrent nodal disease and eventual distant metastasis. Inspite of advanced investigation and imaging occult primary still remains a dilemma to the oncologist.
Materials and Methods
Study was conducted in patients who presented with nodal disease to the Govt. Medical College Thrissur between 01.01.2014 and 31.12.2014
Result
Among the 142 cases 92 cases were from squamous cell carcinoma primary.
Conclusion
The most common primary from which we get secondary lymph node is from a squamous cell carcinoma primary
Keywords
Occult primary, neck node metastasis, squamous cell carcinoma.

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I. Introduction

Neck nodes are common problem to the surgeon because of its varying aetiology. Nodes can commonly be due to simple inflammatory, infective pathologies of the head & neck region to the malignancies arising from head & neck, lung to the visera. Patients with neck node metastasis are evaluated with a detailed history clinical examination and investigation including advance the imaging techniques.

The presents of cervical metastasis is a major prognostic determinant for patient s with head & neck cancer. This significantly reduces the patient survival. The presents of a solitary ipsillateral or contralateral positive lymph node or extra capsular tumour spread reduces the expected survival by nearly 50% for almost for all head & neck sites. Its also observed that the persistence of recurrence of the tumour at the primary site is associated with and increased incidence of both nodal and distant metastasis.

The presence of nodal metastasis doubles the incidence of distant metastasis (13.6% from 6.9%). The presence extra capsular nodal spread triples the incidence of distant metastasis (19.1% from 6.7%) and it associated with 10 fold increase in recurrence. In general greater the number of nodes and lower in the neck, worse the prognosis.

As a result of better local and the regional control patients are surviving longer allowing distant metastasis and 2nd primary tumour. The metastasis is usually to the lungs bones, and liver. The potential for distant metastasis provides a rationale for neoadjuvant therapy.

Out of 800 lymph nodes of the body 300 are located in the neck. For nearly 4 decades the classification for cervical lymph nodes was that developed by Rouviere in 1938. A level based system was introduced by shaw et al in 1981.

Pathology

Most head and neck malignant neoplasms arise from the surface epithelium and are squamous cell carcinoma (SCC) or one of its variants, including lymphoepithelioma, spindle cell carcinoma, verrucous carcinoma, and undifferentiated carcinoma. Lymphomas and a wide variety of other malignant and benign neoplasms make up the remaining cases. 1 1-13 Lymphoepithelioma is an SCC with a lymphoid stroma and occurs in the nasopharynx, tonsillar fossa, and base of tongue; it may also occur in the salivary glands. In the

spindle cell variant, found in 2% to 5% of upper aerodigestive tract malignancies, there is a spindle cell component that resembles sarcoma intermixed with scc. It is generally managed like other hight-grade SCCs. Verrucous carcinoma is a lowgrade SCC found most often in the oral, cavity, particularly on the gingivba and buccal mucosa. It usually has an indolent growth pattern and is often associated with the chronic use of snuff or chewing tobacco.

Squamous cell carcinoma

Patterns of Spread Primary Lesion sees usually begin as surface lesions, but occasionally originate below the surface of the mucosa. Superficial tumors arising in Waldeyer's ring may be difficult to distinguish from normal lymphoid tissue. Very early surface lesions may show only erythema and a slightly elevated mucosa. Spread is dictated by local anatomy, and thus varied by each site. Muscle invasion is common, and tumor may spread along muscle or facial planes for a surprising distance from the palpable or visible lesion. Tumor may attach early to the periosteum or perichondrium, but bone or cartilage invasion is usually a late event. Bone and cartilage usually act as a barrier to spread; tumor that encounters these structures will often be diverted and spread along a path of less resistance. Slow-growing gingival neoplasms may produce a smooth pressure defect of the underlying bone without bone invasion. Tumor extension into the parapharyngeal space allows superior or inferior spread from the skull base to the low neck. Spread inside the lumen of the sublingual, submandibular, and parotid gland ducts is uncommon. The nasolacrimal duct, however, is often invaded in ethomoid sinus and nasal carcinomas. Perineural invasion (PNI) is observed in SCCs as well as salivary gland tumors, especially adenoid cystic carcinomas. The presence of PNI predicts a poorer rate of local control when managed by surgery; there are no specific data for definitive radiotherapy (RT). Tumors may track along a nerve to the skull base and central nervous system (CNS). Periopheral PNI is also observed. Patients with PNI may develop neurological symptoms secondary to nerve invasion or, less frequently, entrapment of the nerve. Vascular space invasion is associated with an increased risk for regional and distant metastases.

II. Materials & Methods

Subjects : Patients who presented with lymph nodes secondaries in the neck during a period of one year from 01.01.2014 to 31.12.2014.

Inclusion criteria

1. Patients with cervical lymph nodes suspicious of malignancy
2. Patients with pathologicaly proven malignancy.

Exclusion Criteria

1. Patients with benign swellings
2. Tuberculous lymph node
3. Primary nodal malignancies like lymphoma

Samples size

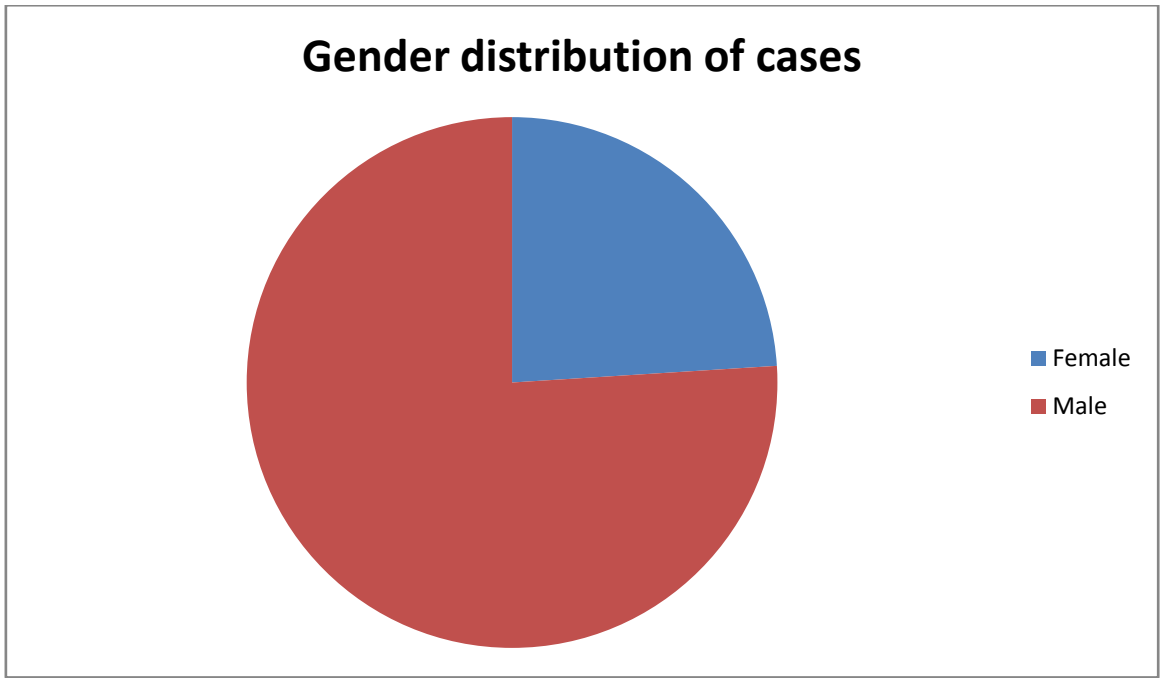
142 case

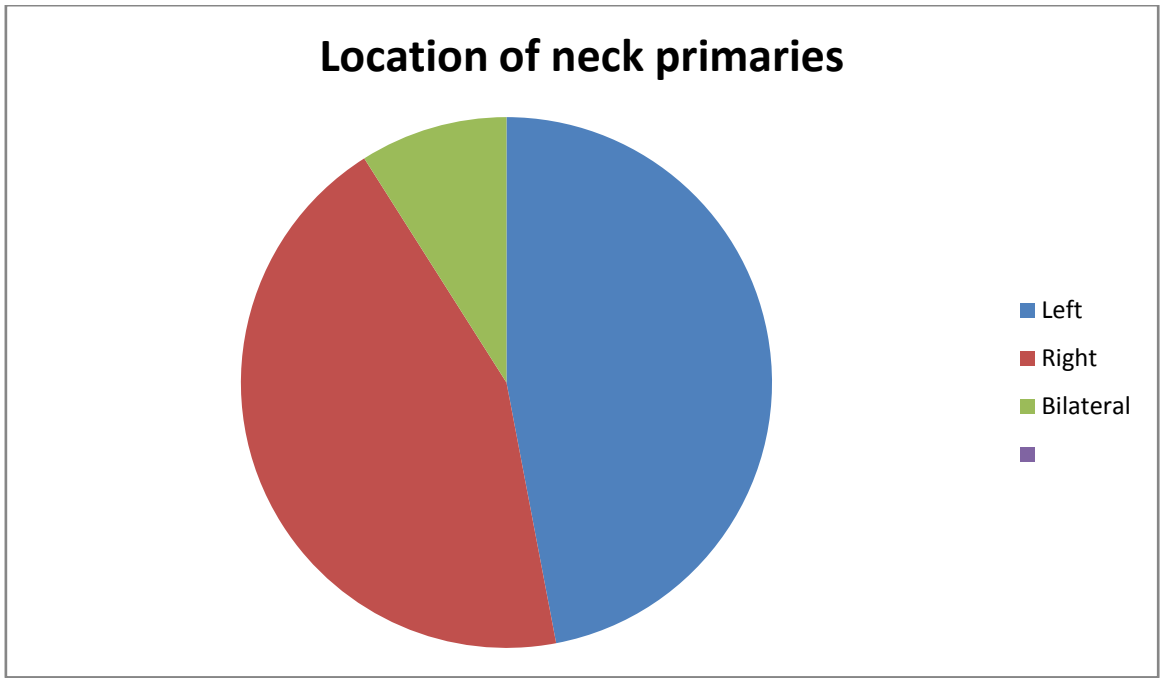
Materials & Methods

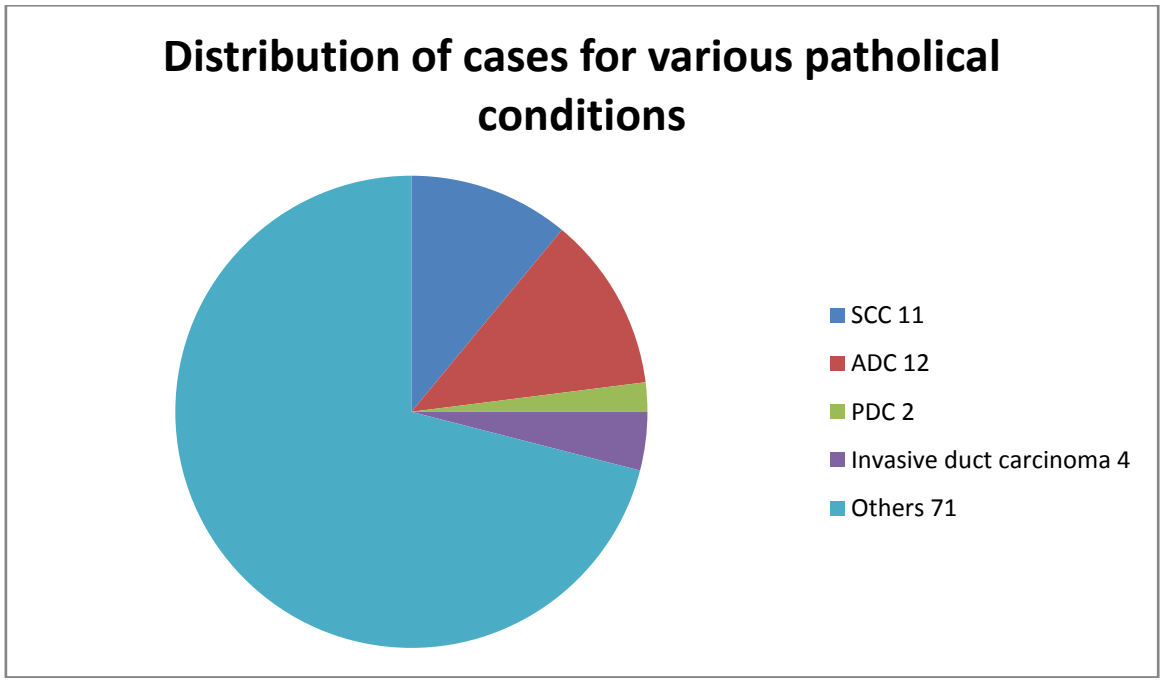
All these patients were evaluated with a detailed history and clinical evaluation. The location and extend of the primary tumour and any clinically positive lymph node is documents. Almost all patients underwent CECT and/ or MRI to further define the extend of the locoregional disease. The author prefers the use of CT and reserves MRI for the patients in which further information is needed. The scan should be obtained prior to biopsy. A chest radiograph is obtained to determine lung metastasis and /or a synchronous primary or lung cancer. The patients with out an obious primary were evaluated by a complete ENT evaluation with direct laryngoscopy and / or pharyngoscopy patients with unknown primary should undergo FNAC. Excision biopsy is usually preferred when the FNAC result becomes in conclusive or equivocal. If the FNAC result is adinocarcinoma, lungs and gastro intestinal system should be evaluated with upper GI scopy and lower GI scopy.

Objectives

1. To study the clinicopatholigical features of lymph node secondaries in the neck
2. To know the age distributions of the presentation of secondaries in the neck
3. To know the sex wise distribution of neck secondaries and the pathological type
4. To know the level of lymph node commonly involved in metastasis.


Gender distribution of cases
Female
Male


Location of neck primaries
Left
Right
Bilateral



III. Observation

We have total 142 cases presented with neck nodes. The gender wise distribution of cases is 24% percent (34 out of 142 cases) female and 76% cases (108 out of 142 cases) are male. More than 80% of the cases fall in the age group of 40 to 70, out of which 67 cases were in age group 60 to 69, 37 cases are in age group 50 to 59 and 14 cases are in age group 40 to 49. Lymph node secondaries are mostly located on right side of neck (47% in 142 cases) and in 9% are located bilaterally. On further evaluation we found the site of primary in 132 cases and 10 cases the site of primary was not diagnosed. Among the 142 cases 92 cases are SCC and 15 cases are adenocarcinoma and 16 cases are poorly differentiated carcinomas and rest of the pathological conditions are present in 7 cases. Most common site of primary is the ENT areas that is Nasopharynx, hypopharynx, larynx. Among SCC (92 cases), ENT areas are the major site of primary and in case of ADC and PDC lung is the major site of primary. The most common level of lymph node affected was level 2 Among the 10 cases of undiagnosed primary 3 cases are SCC 1 cases was ADC 4 cases was PDC and the most common level involved was level 2.

Test cases of 142 patients have been analyzed. The gender wise division of test cases is shown in Fig 11, the age wise distribution of the cases has been shown in Fig 12 and located wise distribution is shown in Fig. 13.

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