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Cervical Tumor Mass. Clinical Presentation

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1. ABSTRACT

Cervical masses represent a frequent clinical challenge, encompassing a wide spectrum of benign, inflammatory, and malignant etiologies. The timely recognition of alarming features, including rapid growth, associated systemic symptoms, or compressive syndromes, is critical in guiding diagnosis and treatment. Here, we present a paradigmatic case of a 55-year-old male with a massive right supraclavicular tumor mass, venous collateral circulation, and ipsilateral upper limb edema, illustrating the importance of a systematic diagnostic and therapeutic approach. We review the current literature on the definition, epidemiology, clinical syndromes, diagnostic algorithms, imaging and molecular studies, and therapeutic strategies for cervical tumor masses.

2. INTRODUCTION

The evaluation of a cervical mass is a common problem in clinical medicine, encountered in primary care, otolaryngology, oncology, and internal medicine. While many cases are benign or self-limited, a significant proportion, particularly in adults, represent malignant disease. The cervical region contains numerous anatomical structures including lymph nodes, thyroid, salivary glands, and soft tissues, each of which may give rise to tumors. This article discusses a case presentation and integrates current evidence regarding the definition, epidemiology, diagnostic algorithm, and therapeutic management of cervical tumor masses.

3. DEFINITION OF A CERVICAL TUMOR MASS

A cervical tumor mass is defined as a pathological enlargement or growth located in the neck region, either arising from primary structures or representing metastatic spread. Lesions can be classified as congenital, inflammatory, or neoplastic. In adults over 40, a persistent cervical mass should be considered malignant until proven otherwise [1].

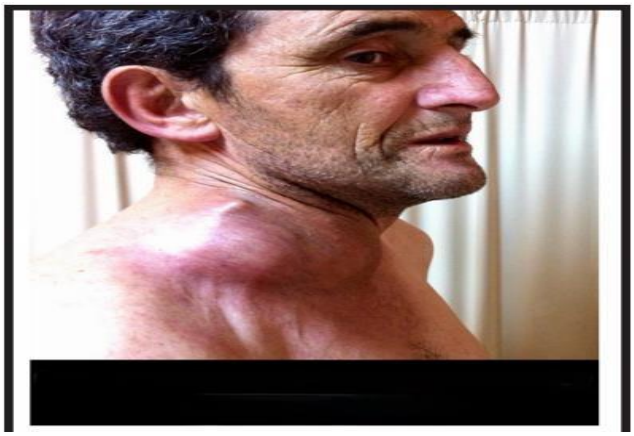


Figure 1: Clinical Image of cervical tumor mass. Courtesy, Adrian Hunis MD.

Figure 2: Clinical image of cervical tumor mass. Courtesy, Adrian Hunis MD.

Figure 3: Clinical image of cervical tumor mass. Courtesy, Adrian Hunis MD.

4. EPIDEMIOLOGY: FREQUENCY, AGE, SEX, AND RACE

Cervical masses vary in frequency depending on age and risk factors. In children and young adults, congenital lesions (such as branchial cleft cysts) or reactive lymphadenopathy are more common [2]. In middle-aged and older adults, malignancies account for more than 50% of persistent cervical masses [3]. Male predominance is seen in head and neck squamous cell carcinoma, often associated with smoking and alcohol consumption [4]. Nasopharyngeal carcinoma is more frequent in Southeast Asian populations, while HPV-associated oropharyngeal carcinoma has risen in Western countries [5]. (Table 1)

Table 1. Differential diagnosis of cervical masses by age group

Age group	Common causes	Comments
Children/adolescents	Congenital cysts, reactive lymphadenopathy	Mostly benign
Young adults	Infectious, benign tumors	Consider mononucleosis, TB
Adults >40	Metastases, lymphoma, HNSCC	Malignancy until proven otherwise

5. DIAGNOSTIC ALGORITHM

A structured diagnostic algorithm ensures early identification of malignant disease. Steps include: 1) Clinical history and risk factors; 2) Physical examination; 3) Laboratory tests (CBC, ESR, LDH, viral serologies); 4) Imaging (Ultrasound, CT, MRI, PET/CT); 5) Biopsy (FNA, excisional); 6) Molecular/genetic testing. This sequential approach reduces diagnostic delays and improves prognosis

6. DIAGNOSTIC ALGORITHM FOR A CERVICAL TUMORAL MASS

Presentation

Patient with cervical tumoral mass

↓

1. Clinical history & risk factors

Symptoms (onset, fever, weight loss)

Risk factors (tobacco, alcohol, HPV, prior cancer)

↓

2. Physical examination

Full head & neck exam

Cranial nerves, size, mobility, tenderness

↓

3. Laboratory tests

CBC, ESR, LDH

Viral serologies (EBV, HIV, HBV/HCV)

↓

4. Imaging

Ultrasound → CT/MRI for staging

PET/CT if malignancy suspected

↓

5. Biopsy

FNA first-line

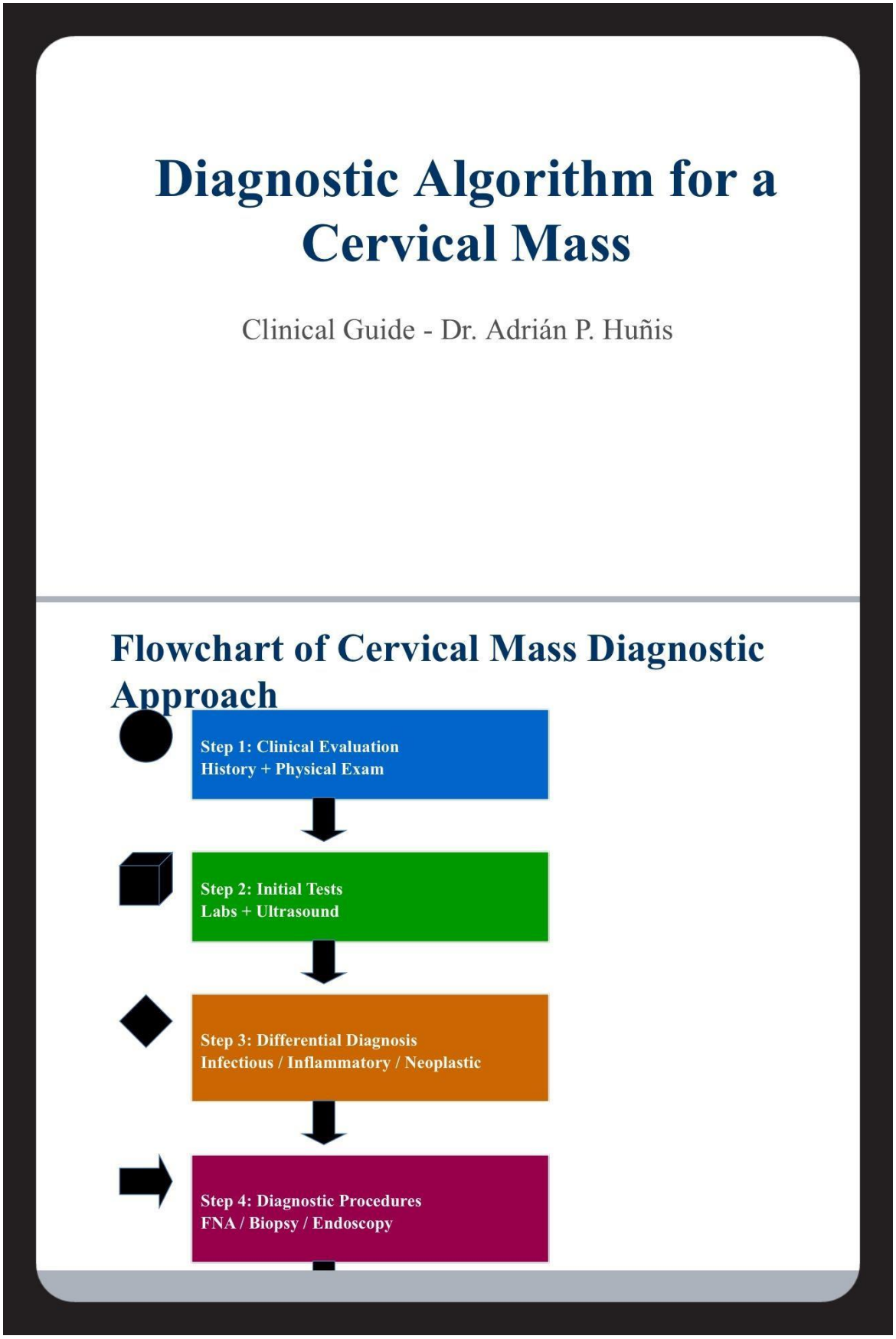
Excisional if non-diagnostic

↓

6. Molecular / genetic testing

HPV/p16, EBV status

Tumor markers, NGS panel


Diagnostic Algorithm for a Cervical Mass
Clinical Guide - Dr. Adrián P. Huñis
Flowchart of Cervical Mass Diagnostic Approach
Step 1: Clinical Evaluation
History + Physical Exam
Step 2: Initial Tests
Labs + Ultrasound
Step 3: Differential Diagnosis
Infectious / Inflammatory / Neoplastic
Step 4: Diagnostic Procedures
FNA / Biopsy / Endoscopy

7. CLINICAL PRESENTATION AND ASSOCIATED SYNDROMES

Cervical tumor masses may be asymptomatic or produce compressive, vascular, or systemic manifestations. In our case, the patient exhibited a voluminous right supraclavicular mass with venous collateral circulation and ipsilateral arm edema, consistent with Superior Vena Cava Syndrome (SVCS) [6]. Syndromes associated with cervical masses include SVCS, 'B' symptoms suggestive of lymphoma, and paraneoplastic syndromes in thyroid or lung malignancies.

Figure 4: Clinical image of cervical tumor mass. Courtesy, Adrian Hunis MD, Superior Vena Cava Syndrome (SVCS).

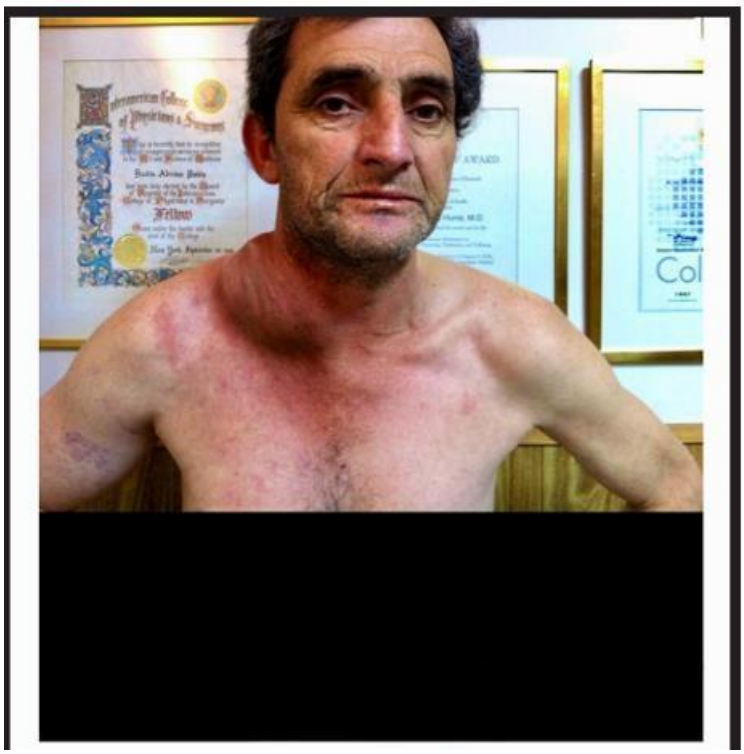


Figure 5: Clinical image of cervical tumor mass. Courtesy, Adrian Hunis MD, Superior Vena Cava Syndrome (SVCS).

8. ROLE OF BIOPSY, MOLECULAR PANELS, AND GENETIC STUDIES

Histological confirmation is mandatory. Fine-Needle Aspiration (FNA) is minimally invasive with high sensitivity [7], while excisional biopsy remains the gold standard for lymphoma [8]. Advances in molecular diagnostics have enabled testing for HPV, EGFR, ALK, KRAS, PD-L1, and next-generation sequencing panels, improving therapeutic decision-making [9].

9. IMAGING STUDIES

Ultrasound is first line for differentiating cystic vs. solid lesions. CT with contrast provides staging and vascular mapping, MRI offers superior soft tissue definition, and PET/CT detects occult primaries and distant metastases [10].

10. LABORATORY TESTS

Laboratory evaluation includes complete blood count, LDH (elevated in lymphomas), thyroid function tests, viral serologies, and tumor markers (CEA, SCC antigen, thyroglobulin) in selected cases [11].

11. THERAPEUTIC MANAGEMENT

Therapy depends on etiology: (a) Head and neck squamous cell carcinoma: surgery + chemoradiation; (b) Lung cancer metastases: systemic therapy ± local RT; (c) Lymphomas: systemic chemoimmunotherapy (e.g., R-CHOP). In emergencies like SVCS, corticosteroids, urgent radiotherapy, or venous stenting may be required [12].

12. CONCLUSIONS

A cervical tumor mass in adults should be considered malignant until proven otherwise. A systematic approach including history, exam, imaging, biopsy, and molecular studies is essential for diagnosis and treatment. Early recognition of alarming features, as illustrated by our case, is critical for improving outcomes.

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