

Initial assessment of a neck mass in children

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Key-words. Head and neck tumours; congenital cyst; congenital fistula; lymphadenopathy

Abstract. Objective: To propose national recommendations for the initial assessment of a mass in the neck in children. Methods: Comprehensive review of the available literature and consensus discussion with national experts in the field. Results: Consensus guidelines are proposed concerning the work up of children presenting with a mass in the neck.

Introduction

The occurrence of a mass in the neck during infancy and childhood remains a diagnostic challenge. The differential diagnosis is exhaustive and quite complex. Parents are often anxious, fearing an underlying malignancy. Too often, a therapeutic decision is made in haste with potential detrimental effects on the affected child's physical and mental well being. Therefore, close collaboration between paediatricians and otolaryngologists involved in head and neck surgery is essential to manage these patients adequately.

Differential Diagnosis

The evaluation and management of paediatric neck masses requires extensive knowledge of the anatomy and embryology of the head and neck and the pathology of the specific disorders.

A mass in the head and neck can arise within the lymph nodes (intra-nodal) or outside the nodes (extra-nodal).¹⁻⁴

The patient's age is critical concerning the diagnostic assessment. In children (0-15 years), most lumps occurring in the neck represent a benign lesion, either congenital or inflammatory, while in adults older than 40 years, malignant lesions are more common.¹⁻⁴ In some circumstances, multiple diagnoses may co-exist. For example, an acute infection can typically occur within a congenital cyst.

Initial Assessment

A thorough history and physical examination along with a focused and co-ordinated work up are essential. Often these alone can accurately lead the physician to the correct diagnosis.

Imaging

Medical imaging plays an important part in the assessment. In children, ultrasonography is currently first performed before any surgical procedure is undertaken.³

Ultrasonography helps to define the primary nature of the

mass (lymphadenopathy, cyst ...) and provides information about the extent of the mass in the neck, such as involvement of adjacent structures and relationship with the blood vessels and the upper airway.

If following a careful history review, clinical examination and ultrasonography, insufficient information is acquired for surgical planning, a CT scan or MRI must be considered.⁵ Generally, CT/MRI are best indicated for deep or extensive lesions, when para- and retro-pharyngeal spaces are suspected to be involved, and when ultrasonography is inconclusive. These examinations in young children necessitate general anaesthesia or deep sedation. Children are significantly more sensitive to radiation exposure (CT scan).

Fine Needle Aspiration

Fine needle aspiration (FNA) has become the diagnostic procedure of choice in the evaluation of a persistent mass in the neck.^{6,7} FNA may be performed by the physi-

cian himself or by the radiologist under ultrasonographic guidance.

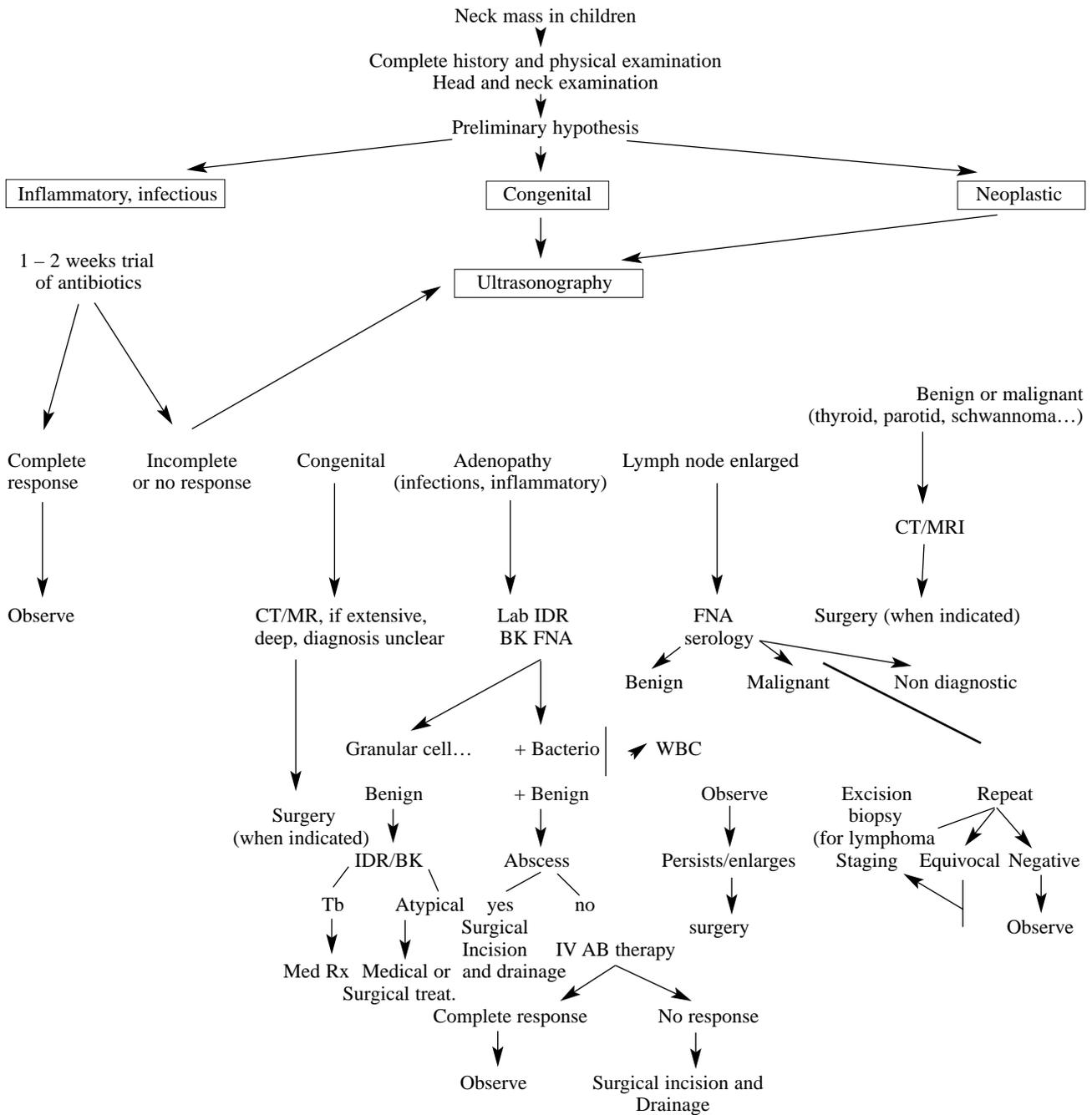
Laboratory tests

Laboratory analyses may assist the diagnosis evaluation. Acute or

chronic infections and inflammatory lesions can be assessed with specific haematological tests (see algorithm).

Algorithm

The following algorithm for the diagnostic evaluation of a neck mass in children is proposed.



Algorithm

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