Diagnosis of cervical – Lymph adenopathy According to age groups

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Abstract

Cervical – Lymphadenopathy is common problem , both in children and adults.Aim of study , to determine the most professional – diagnosis of cervical – Lymphadenopathy according to patient age . over period Lasting from Jan . 2007 to Nov . 2009 , prospective study of (83) patients from (both sexes) , (male : 51)(Female : 32) with cervical – Lymphadenopathy were taken and divided into two age groups (pediatric age group < 5y) and (Adult age group 16-72 y) . Diagnosis of cervical – Lymphadenopathy depend on clinical – examination , radiological – examination , FNA(Fine Needle Aspiration) , and in some cases excisional biopsy was taken. Result : this study showed that inflammatory and infectious diseases had the highest incidence in pediatric age group (65.7%) of total pediatric cases , followed by primary malignant cervical – Lymphadenopathy (25.7%) , the lowest was the secondary metasteses (8.6%) . while in adult age group secondary cervical Lymphadenopathy (metastases) was the commonest (41.71) Followed by infectious and inflammatory Lesion (37.51) , the Lowest was the primary cervical – Lymphadenopathy (20.8%) Conclusion : In this study infectious and inflammatory cervical – lymphadenopathy was the commonest in pediatric age group , while secondary cervical lymphadenopathy –(metasteses) was the commonest in adult age group .

تشخيص العقد اللمفية العنقية حسب الفئة العمرية

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المستخلص

أجريت هذه الدراسة في مستشفى تكريت التعليمي في العراق تضمنت الدراسة اخذ عينة مكونة من (٨٣) مريضا جميعهم مصاب بتضخم الغدد اللمفية في منطقة العنق حيث امتدت الدراسة من كانون الثاني ٢٠٠٧ وحتى تشرين ثاني ٢٠٠٩ حيث قسم المرضى إلى مجموعتين : مجموعة الأطفال (٣٥) مريضا . ومجموعة البالغين (٤٨) مريضا .تم فحص هذه العقد اللمفية سريريا ثم الاستعانة بالفحوصات الشعاعية (السونار . المفراس . الرنين) كل حسب الاحتياج . كذلك تم السحب من هذه العقد وفحصها خلويا . وعند الضرورة استأصلت هذه العقد وفحصت نسيجيا. من خلال الدراسة وجد أن مجموعة الأطفال كانت تعاني بصورة رئيسية من الالتهابات يليها ورم الغدد اللمفية الأولي (لمفوما) ثم ورم الغدد اللمفية الثانوي. أما بالنسبة للبالغين فكانت الأغلبية تعاني من ورم الغدد اللمفية الثانوي ثم التهاب الغدد اللمفية ثم ورم الغدد اللمفية الأولي (لمفوما) تم من خلال هذه الدراسة تحديد نوعية العقد اللمفية حسب الفئة العمرية لكي يتم التعامل معها بصيغة علمية .

Introduction

As components of peripheral – Lymphoid organs , Lymph nodes are an important part of immune system . Because Lymph nodes become enlarged in wide spectrum of diseases including infection and malignancy , enlarged Lymph nodes are quite common finding in clinical – practice , management of such cases depends on Lymph nodes pathology which can be studied by collection of material from the Lymph nodes through FNA(Fine_ Needle Aspiration) or excisional – biopsy. Cytodiagnosis of Lymph nodes aspiration can be grouped under 3 major categories :

1- Lymph adenitis and hyperplasia :

Three cytologic patterns can be described under Lymphadenitis and hyperplasia :

A-Reactive hyperplasia :

Infection and non microbial inflammatory stimuli cause Leukocytosis and involve the Lymph nodes which act as defensive barrier , result in immune response against foreign Antigens , process often associated with Lymph nodes enlargement

B-Suppurative Lymphadenitis :

Abscess formation may occur in certain bacterial and fungal infection (these organism are said to be pyogenic or pus forming)

C-Granulomatous Lymphadenitis :

Characterstic feature is the clustering of epitheloid cells in a Lymphoid smears . Could be due to :

C-I- Infections diseases :

Tuber closis , Toxoplasmosis ,Brucellosis , Histo plasma , Cytomegalo virus .

C-II- Immunological diseases :

Systemic Lupus , Rhomatoid arthritis .

C-III- Miscellanous disorders :

Like , sarcoidosis , sinus histeo cytolsis(1).

2- Lymphoma and Leukemia

Lymphomas are primary malignant tumor of Lymphoid tissue ,

Two types of Lymphoma (Hodgkins and Non Hodgkins Lymphoma) also Leukemia ((mainly the chronic form))

3- Metastatic Neoplasms :

The most metastic carcinoma includes :

A- squamous cell carcinoma from orpharynx , Laryngeal – carcinoma

B- Adeno carcinoma : mostly from thyroid and stomach .

C- undifferentiated carcinoma : mainly from Lung cancer .[2]

Lymphatic drainage of the neck divided into:-

1- **superfacial Lymph nodes** : Lies along the external – jugular and anterior Jugular Veins , mainly superfacial and anterior cervical .

2- **Deep Lymph nodes :** Lies along the internal – Jugular vein the main groups (Jugulo digastric and Jagulo-omohyoid Lymph nodes) that drains into Jugular trunk . [3]

* **Lymphadenopathy** : is a term meaning diseases of Lymph nodes)) Its however almost synonymously used with swollen , enlarged nodes)) : that could be due to infection, auto immune diseases , or malignancy . [4]

Fine needle aspiration(FNA) has became stander in making both diagnosis and management decision [5]

Aim of study : To determine the most professional – diagnosis of cervical – Lymphadenopathy according to patient – age and deal – with it in scientific way .

patients and methods

Prospective study including (83) patients with cervical Lymphadenopathy from both sexes (male . 51 (61.5%) - Female – 32 (38.5%) had been taken in this study , that carried out at Tikrit teaching hospital (study extend from Jan. 2007

to Nov . 2009 and patients divided into two groups :

A – pediatric age group (< 15 y), (35)patients : (42.2%).

B – Adult age group (16-72) ,(48)patients : (57.8%) . Full history was taken from the patients , clinical examination . concerning neck examination to detect the site, size , number and consistency of Lymph nodes : ENT examination was performed . and the related Lab rotary test was send for .

Ultrasonic examination of the neck was done for some cases to detect the nature of lymph nodes and related vascularity , (FNA – Fine Needle Aspiration) was done for all cases and when the result of (FNA) was vague , were presented in some cases , excisional – biopsy was done to prove the diagnosis.

CT- scan and MRI was done for some cases to detect the extend of Lesion and to detect the site of primary tumor .

Results

This study includes (83) patients from both sexes (male : 51) and (Female - 32) that categorized into two age group : Pediatric age group (< 15 y) were (35) patients (42.2%) and adult age group (16-72y) were (48) patients (57.8%).

Table (1) : showed that Lymphoid reactive hyperplasia and inflammatory nodes had the highest percentage (65.7%) of total pediatric age group .Reactive hyperplasia was found in (37.1%), followed by tuberculus lymphadenitis (17.2%) then suppurative lymph adenitis (11.4%) . While in adult age group , reactive and inflammatory lymph nodes(37.7%). Tuberculus Lymphadenitis had was found in (18.75%) followed by lymphoid reactive hyperplasia (12.5%) , then suppurative lymphadenitis was (6.25%) of total adult cases .

Table (2) : demonstrated that primary malignant lymphadenopathy in children (25.7%) of total pediatric , cases , Non – Hodgkins Lymphoma (20%) , while Hodgkin's Lymphoma was found in (5.7%) In adults , the primary malignant Lymph adenopathy (20.8%) of total adult cases , Non- Hodgkin's Lymphoma (8.3%) and Hodgkin's Lymphoma was found in (8.3%) . Leukemia (CML) reported in (2 cases), (4.2%) .

Table (3) : reveled that secondary malignant Lymphadenopathy (metasteses) in children (8.6%) of total pediatric cases , adenocarcinoma (2.9%) while undifferentiated (5.7%) . While in adult secondary malignant Lymphadenopathy (metasteses) had the highest percentage (41.7%) of total adult cases (mainly above the age of 40 years) , squmous cell carcinoma (16.65%) adeno carcinoma (16.65%) and undifferentiated (8.4%) . Squmous cell carcinoma came mainly from pyriform fossa (Hypo pharynx) , supraglotic region (Larynx) & nasopharynx , while adeno carcinoma mainly of thyroid , stomach ,Lung and breast origins. Occult primary (not found the primary) reported (6) cases .

Table (1): Distribution of reactive and inflammatory Lymph nodes Lesion in children and adults .

Lymph node Lesion	Children		Adult	
	No	%	No	%
Reactive hyperplasia	13	37.1	6	12.5
Tuberculosis	6	17.2	9	18.75
Suppurative	4	11.4	3	6.25
Total	23	65.7	18	37.5

Table (2): Distribution of primary malignant Lymph nodes Lesion in children and adults .

Lymph node Lesion	Children		Adult	
	No	%	No	%
Non Hodgkin's Lymphoma	7	20	4	8.3
Hodgkin's Lymphoma	2	5.7	4	8.3
Leukemia (CML)	-	-	2	4.2
Total	9	25.7	10	20.8

Table (3): Distribution of secondary malignant tumor (meta stases) of Lymph nodes in children and adults .

Lymph node Lesion	Children		Adult	
	No	%	No	%
Squmous cell carcinoma	-	-	8	16.65
Adeno carcinoma	1	2.9	8	16.65
Undifferentiated	2	5.7	4	8.4
Total	3	8.6	20	41.7

Discussion

It has been showed that Lymphadenopathy in pediatric age group exhibit inflammatory and infectious Lesion more than neoplastic while in older adult neoplastic Lymphadenopathy should kept in mind [1 6]. Leez N et al (2007) showed that cervical Lymphadenopathy during childhood mostly reactive in nature , and related to infection and inflammation [7]. the above agree with our study finding that in pediatric age group , cervical Lymphadenopathy mostly due to infection or inflammation. Steven et al (2003) observed that infectious and inflammatory cervical lymphadenopathy encounter in pediatric age group , while malignant Lymphadenopathy are rare in the same age group([8]) , our study showed that secondary malignant lymphadenopathy was not rare , and primary malignant lymphadenopathy were seen . Tones et al (2006) described young adult (< 40) with cervical lymphadenopathy most likely infectious or inflammatory, while older (> 40 y) more than (60 %) of the lesion are neo plastic [9] . In this study malignant Lymphadenopathy , primary or secondary . Both were common in those adult patient (mainly above 40 y) Nicholas A et al (2006) , showed that patients with Hodgkin's Lymphoma , presented in two peaks (20 – 30 y) other (50 – 70 y while Non – Hodgkin's Lymphoma seen mainly in elderly patients ([10]) . Bernadet F et al (1995) , showed that Hodgkin's Lymphoma seen in all age groups with highest percentage in pediatric age group([11]) , the previous studies disagree with our study finding , that – Non Hodgkin's Lymphoma occure mainly in pediatric age group. Reetor W et al (2007) reveled that the prevalence of Non -Hodgkin and Hogkins Lymphoma occurs in the same Frequency in adult age group([12]) ,this agree with our study finding. Baffi R et al (1995) showed that nasopharyngeal , or pharyngeal and hypo pharyngeal – tumor seen in high incidence of palpable lymphadenopathy , metastetic adeno carcinoma of cervical – lymph nodes mostly of thyroid , stomach , Lung and breast in origin [(13)]. this agree with our study finding , that secondary malignant Lymphadenopathy from the head and neck came from pyriform fossa , supraglottic and nasopharynx . Adeno carcinoma usually secondary to thyroid , stomach ,lung and breast cancer .

Conclusion

In this study pediatric age group showed that most of the cervical lymphadenopathy of infectious and inflammatory Lesion (65.7%) this followed by primary malignant tumors (25.7%) . while secondary malignant tumors showed Lowest percentage (8.6%) mostly of undifferentiated type . Secondary carcinoma of cervical Lymphadenopathy in adult age group showed to be the most common Lesion(41.7%) . Followed by inflamunatory and infectious lesion (37.5%) , Lymphoma was the Lowest (20.8%)

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