

Original Research Article

CT Findings Of Patients Presenting With Headache At Al Hilla Teaching Hospital

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Abstract

Multislice computed tomography (MDCT) is a promising the important and noninvasive method of detecting head or brain pathology. It is now being widely used in Iraq.

To determine the findings of patients presenting with headache (secondary headache) in those with uncertain cause (primary or idiopathic headache) nor uncertain diagnosis by physical examination, laboratory investigations & plain X-ray Al Hilla teaching hospital / Radiology Department / CT scan unit

It was cross sectional comparative study conducted in Al Hilla teaching hospital. Total (300) patients were included in the study that underwent MDCT between September 2016 & September 2017 and done by using Siemens Somatom Definition AS, 64 slices which manufactured from 2008 until December 2013, Germany and Philips Brilliance 64 slices, 2008, Holl and to valuate for the cause of headache.

The total no. of our patients was (300) patients, males (190), females (110) and no pathology detected 168 (56%) with positive results about 132(44%) the most positive findings are sinusitis (18%), the brain tumors (7,7%), developmental anomalies (6,3%), ischemia (5,3%), brain atrophy (3%), cervicogenic headache (1,3%) and brain metastasis , hemorrhagic infarction each show (1%). MDCT can serve as an excellent screening procedure and non invasive diagnostic procedure, because of its high spatial resolution and ability to image the skull & brain however some cases difficult to diagnose by CT scan alone so need conjugation with other modality like MRI help us to provide a more accurate diagnosis. Contrast media used in some cases to help us in diagnosis.

Key Words: CT scan, headache, International Headache Society.

نتائج فحص المرفاس المتعدد الكاشف لحالات الصداع في مستشفى الحلة التعليمي

الخلاصة:

الهدف من الدراسة هو التشخيص الدقيق لحالات الصداع الغير معروفه الاسباب. انجزت هذه الدراسة التقادمية في مدينه بابل / الحلة وفي مستشفى الحلة التعليمي وتم دراسة ٣٠٠ مريضا مصابا والمحالين الى قسم الأشعة سواء من الطوارئ وباقي العيادات العصبية والباطنية وللفترة من ايلول ٢٠١٦ الى ايلول ٢٠١٧ وباستخدام جهاز المرفاس (السيمنس والفليبس) وأخذ المعلومات من المريض مباشرة ورؤية نتائج الفحص من الأجهزة.

عدد المرضى المفحوصين هو ٣٠٠ مريض منهم ١٩٠ مريضه و ١١٠ مرض وظهرت النتائج السلبية هو ١٦٨ وعدد النتائج الإيجابية ١٣٢ وكانت النتائج كما يلي هي التهاب الجيوب الأنفية هو ١٨% واورام الدماغ هو ٧% و٧% اما العيوب الخلقية هي ٦% و٣% والجلطات ٥% و٣% وضمور الدماغ ٣% والصداع الناتج من سرفان الفقرات العنقية ٣% وانتشار الاورام الى الدماغ والنزف في الدماغ هو ١% . يعتبر استعمال المرفاس الحزوني في حالات الصداع مهم جدا حيث انه له دور كبير بتشخيص الاسباب الخاصة بالصداع وهو جهاز يجب أن يتوفر في كل المستشفيات لدقته في التشخيص.

الكلمات المفتاحية: المرفاس (الكاشف المتعدد)، الصداع، جمعية الصداع الدولية.

Introduction

Nowadays the headache is a major complain that seen by doctors in different levels of health care and it's a major symptoms that make the millions peoples all over the world suffering and affect their life and job. And so it's a one of the main sources of discomfort.

Headache is the most common neurological disorders seen in neurology clinics and in emergency units. It is associated but high morbidity but low mortality and mostly working people [1].

Headache with other symptoms consider most prevalent disorders and most frequent symptoms seen in general practice which also associated with personal and societal disability and affect the quality of life, and in addition to the other effects on the financial cost [2] and it is among the top ten causes of disability [3].

Also it is consider as big problem for all societies that affects all ages, and females are more affected than males [4]. In addition its leads impairment of quality of life, and affect and even loss of work [5].

There are many types of headache can be determined by a careful history associated with neurological examination [6]. The world health organization define headache as a symptom of a range of neurobiological disorders, and middle aged adults are the most likely affected but children and old age are also affected [7].

Results

Table shows distribution of sample according the sex

Sex	No.	(%)
Male	110	36,6 %
Female	190	63.4%
Total	300	100%

Materials and Methods

This is a cross sectional comparative retrospective study design had been conducted using CT apparatus at Al-Hilla teaching hospital from the 1st of Sep 2016 to the Sep of 2017.

The CT scan exams were done using Siemens Somatom Definition AS, 64 slices which manufactured from 2008 until Dec 2013, Germany and Philips Brilliance 64 slices, 2008, Holland.

The study was conducted at CT scan unit, Radiology Department Hilla hospital is largest referral and teaching hospital in Babylon governorate. Babylon governorate Situated in central Iraq just south of Baghdad, governorate Capital is Hilla, its area about 5,119sq km (1.2% of Iraq) and Population about 1,728,132 on 2007 and about 2000,000 on 2014 and about more than 6% of total Iraqi population.

Babylon has 14 public hospitals and hilla teaching hospital is a main public hospital that may examine about more than 90% of whole CT scan exams in Babylon governorate and offers the following services CT scan, MRI facility, General Radiology, Digital Mammography and Ultrasound and Ultrasound Interventional Radiology (US guided aspiration of abscesses and renal cysts....etc

It receives referred patients from various referral hospitals in Babylon, as well as outpatient and patient from medical, neurological and emergency units.

The total no. of our patients was (300) patients, males (190), females (110), and those show no findings are 168 (56%) and those show findings are 132 (44%).

Table shows distribution of study sample according type of headache

Type of headache	No.	%
Acute headache	152	50,7%
chronic headache	148	49,3%
Total	300	100%

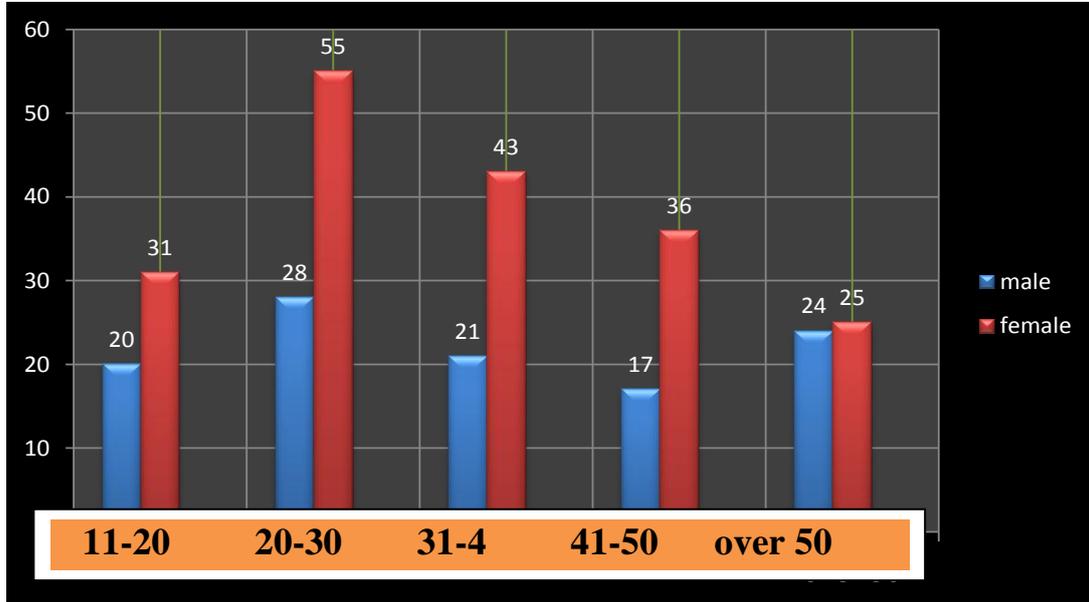


Figure show distribution of study sample according sex and age group

Results of CT scan findings

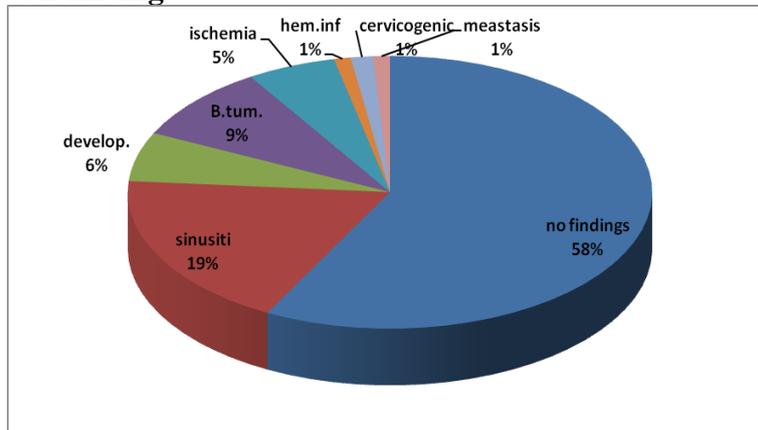


Figure shows the results of CT scan findings

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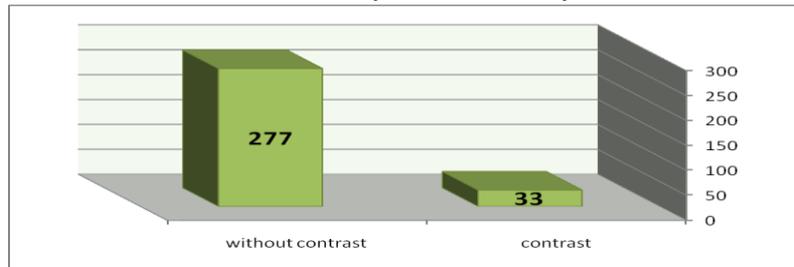
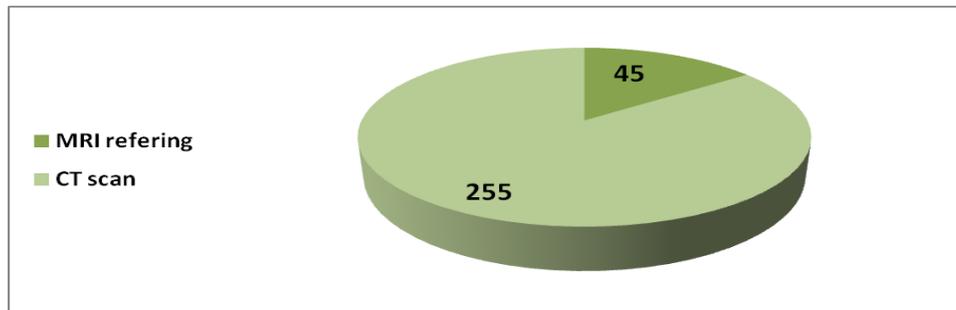


Figure show number of patient with and without contrast



Number of patient with CT scan and that referred to the MRI Figure show

Patients that showed no pathology in brain CT scan

Table shows Patients that show no pathology in brain CT scan according sex and age groups

No pathologies or findings seen in Brain CT scan						
sex	Age group/year				More than 50 yrs	Total No.
	11-20	21-30	31-40	41-50		
Male	14	15	8	5	4	46
Female	19	36	23	29	15	117

Table shows the Association between CT Scan Findings and Gender

CT findings	Gender		χ^2	P-value
	Male	Female		
Sinusitis Present Absent Total	33 (30.0) 77 (70.0) 110 (100.0)	22 (11.6) 168 (88.4) 190 (100.0)	15.78	<0.001*
Ischemia Present Absent Total	10 (9.1) 100 (90.9) 110 (100.0)	6 (3.2) 184 (96.8) 190 (100.0)	4.857	0.028
Developmental anomalies Present Absent Total	10 (9.1) 100 (90.9) 110 (100.0)	9 (4.7) 181 (95.3) 190 (100.0)	2.226	0.136
Brain atrophy Present Absent	5 (4.5) 105 (95.5)	5 (2.6) 185 (97.4)		0.506 f

Total	110 (100.0)	190 (100.0)		
Brain tumors				
Present	7 (6.4)	16 (8.4)	0.417	0.519
Absent	103 (93.6)	174 (91.6)		
Total	110 (100.0)	190 (100.0)		
Brain metastasis				
Present	3 (2.7)	2 (1.1)		0.36 f
Absent	107 (97.3)	188 (98.9)		
Total	110 (100.0)	190 (100.0)		
Haemorrhagic infarction				
Present	2(1.8)	1 (0.5)		0.557 f
Absent	108 (98.2)	189 (99.5)		
Total	110 (100.0)	190 (100.0)		
Cervical cause				
Present	2(1.8)	2 (1.1)		0.626 f
Absent	108 (98.2)	188 (98.9)		
Total	110 (100.0)	190 (100.0)		

*P value ≤ 0.05 was significant. f. Fisher-exact test.

Table 16 shows association between CT scan findings including (Sinusitis, Developmental findings, Ischemia, Brain atrophy, Brain tumors, Brain metastasis, Hemorrhagic infarction and Cervical cause (cervicogenic headache) and gender. There was significant association between gender and presence of sinusitis and ischemia.

Discussion

Headache is the most important frequent symptoms that make the patients asking health care and consult medical clinics either public or private clinics in order to know the exact cause of his complain and take suitable treatment for his complain.

the Sociodemographic distribution

1-Female (190 patients) (63%) of the total sample are more affected or suffering than male (110 patients) (37%)

2-The age groups (21-30years) are more affected (79%) and followed by age group (31-40 years) (65 %) which are the age group that more mature and have more life responsibilities.

3-According to the patient job the most affected groups those have no job about (162 patient) (54%) and followed by those have simple job (68) (22,6%).

4- According to the educational state the most affected group those have primary education (120 patient) and increase gradually with those higher education .

5- According to the social status the most affected are those have family with more than 3 children (141) (47%) and followed by single group (67%) (22, 33%).

6-According to the social class show those low social class are more affected about 182 (60,7%) and followed by middle social class about (78 pt.) (26%)

CT scan findings

Total number of examined patients are 300.

1- 168 of patients (56%) (primary headache) did not show any significant findings in the CT scan studies that done for them.

2-132 of patients (44%) show CT scan findings (secondary headache).

3-About (152 (50,7%) are presented as acute headache and 148 (49,3%)as chronic headache.

4- the most age group affected in both males 28 (9,3%) and females 55 (18,4%) is (21-30 yrs).

5- Females are more affected than males in all age groups and the most age group show more affected females is (20-30).

6- The commonest findings that seen in patients that examined secondary headache is sinusitis (54) (18%) of total (300 pt.).

7- Sinusitis showed increase in the nasal mucosal thickening and sinuses mucosal wall thickening (both maxillary, frontal ethmoidal sinuses) with or without retention cyst for males are 18 (6% of total), and in females are 11 (3,7%) of total 300 pt.

8- Sinusitis which located in multiple sinuses with nasal septal deviation (13 (4,3% of total) in male and 7 (2,3%) in females.

9- Sinusitis that show mucocele rather than increase in sinus mucosal thickening are 1(0,3 %) for each males & females

10- Sinusitis that show osteoma are 2 (0, 7 %) for males & 1(0, 3%) for females.

11- All age groups are may affected by sinusitis but most group affected is (31-40 yrs) in males & about 9 (3% of total) and in females (21-30 yrs) and (31-40yrs) and about 15 (5%) of total.

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