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Original Article

Outcome of laboratory investigations of Jordanian patients with Uveitis

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ABSTRACT

Aim: to evaluate Jordanian patients with uveitis regarding the pattern and outcome of laboratory investigation. Method: This is a prospective study performed at the laboratories of Prince Rashid Bin Alhassan and King Hussein Medical Center between Jan.2009 and February 2012. 84 patients who attended to the ophthalmology clinic and found to have uveitis were included in this study; detailed history was taken followed by detailed examination of the anterior and posterior eye segments initially performed by hospital ophthalmologist. Patients with severe acute anterior (more than +3 or more cells or flare), chronic or recurrent forms of uveitis were investigated for complete blood count and film, erythrocyte sedimentation rate, C-reactive protein, fasting blood sugar, HLA B27, HLA B5, VDRL, ACE level, Rheumatoid factor and antinuclear antibodies. Obtained data was collected and analyzed. Results: The main age of patients included in this study was 37 years, with male to female ratio of 1.6:1. . The most common pattern of uveitis was anterior Uveitis and found in 50 patients (60%), followed by posterior uveitis which was found in 19 patient (23%), intermediate uveitis (13 patients, 15%).76% of anterior uveitis patients yielded positive laboratory investigations, the most common laboratory positive result was HLA B27 which was found in 38% of patients with anterior uveitis. Laboratory investigation was unhelpful in patients with pan uveitis, in posterior uveitis the laboratory investigation was helpful in establishing the diagnosis in 3 patients (16%).Conclusion: The most common pattern of uveitis among Jordanian patients is anterior uveitis and the most common cause is idiopathic, laboratory investigations were more helpful in patients with anterior and to a lesser extent posterior uveitis.

1. Introduction

Uveitis is defined as intra ocular inflammation of the uveal tract (iris, ciliary body and choroid), adjacent structures like retina, optic nerve and vitreous may be involved as well. It is classified anatomically into anterior, middle, posterior and pan uveitis, or it can be classified according to the histopathology into gramulomatous and non gramulomatous, or according to the etiology into infectious and non infectious. Regarding the pattern and frequency of attacks it can be acute, chronic or recurrent. Uveitis is considered a major cause of severe visual impairment and 10-15% of cases with total blindness in the USA [1]. and 8% of cases with blindness in Jordan [2]. Although there is a long list of diseases that can cause uveitis , idiopathic uveitis remains the commonest form, it is estimated that only one fourth of uveitis is associated with systemic disease [3]. The complications of uveitis on the eyes

include cystoid macular edema, secondary glaucoma, secondary cataract, vitreous opacities and retinal scars. It also can affect children and constitute about 5-10% of all new uveitis patients [4 The aim of this study is to evaluate the patients of uveitis regarding the type and outcome of laboratory investigation for uveitis.

2. Method

This is a prospective study performed at the laboratories of Prince Rashid Bin Alhassan in the north of Jordan and King Hussein Medical Centre in the middle of Jordan between Jan.2009 and February 2012. All patients who attended the ophthalmology clinic and found to have uveitis were included in this study, patients with known systemic diseases or recent trauma or surgery were excluded from the study. 84 patients were included in this study, detailed history was taken initially at the ophthalmology clinic regarding age, sex, past ocular and systemic history and the presence of any systemic complaints, after that all patients were examined using the slit lamp at the ophthalmology clinic, the examination include detailed examination of anterior and posterior segment and measurement of intra ocular pressure. a patients with severe acute anterior (more than +3 or more cells

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or flare), chronic or recurrent forms of uveitis were investigated for collecting blood count (CBC) and film, erythrocyte sedimentation rate (ESR), C- reactive protein(CRP), fasting blood sugar, HLA B27, HLA B5, VDRL, ACE level, Rheumatoid factor(RF) and antinuclear antibodies (ANA). Obtained data was collected and analyzed.

3. Results

84 patients were included in this study, the age of the patients ranged from 12 to 58 years (mean 37 years), 52 patients (62%) were males. The most common pattern of uveitis was anterior Uveitis and found in 50 patients (60%), followed by posterior uveitis which was found in 19 patient (23%), intermediate uveitis (13 patients, 15%), and panuveitis (2 patients, 2%). Acute uveitis formed 56% of cases, while recurrent uveitis formed 36%of cases and chronic uveitis formed 8% of cases. 58% of patients with anterior uveitis were severe form and laboratory investigations were performed, so the total number of patients who underwent investigation is 63 patients. The results of the investigations among the patients are summarized in table 1.

Table1. The percentage of patients who reported abnormal results either positive or outside the normal range in all patterns of uveitis

	Anterior uveitis (29 patients)	Intermediate uveitis (13 patients)	Posterior uveitis (19 patients)	Panuveitis (2 patients)
CBC	0%	0%	5%	0%
FBS	7%	8%	0%	0%
ESR	28%	16%	0%	0%
CRP	31%	8%	0%	0%
ANA	3%	0%	0%	0%
HLA B27	38%	16%	0%	0%
HAL B5	24%	8%	5%	0%
RF	7%	0%	0%	0%
VDRL	3%	0%	5%	0%
ACE level	0%	0%	5%	0%

4. Discussion

There is a wide variation in the prevalence, pattern and etiology of uveitis worldwide, this attributed to the variation in ethnicity and variation in the prevalence of systemic diseases that are associated with uveitis. Also there is controversy regarding the need for investigating patients with uveitis, Baye's thinks that investigations are helpful only if there is 50% likelihood of pretest disease and they are not useful when there is high or low percent likelihood of pretest disease, [5] according to Sinha, Correct set of investigations may aid in timely and accurate diagnosis and treatment of both ocular and any systemic conditions associated, thus decreasing morbidity and mortality, [4] in addition to that laboratory results can give idea about the prognosis of uveitis for example William found that the prognosis of anterior uveitis associated with the HLA-B27 haplotype, either with or without associated systemic disease, is less favorable when compared with that of HLA-B27-negative patients with idiopathic anterior uveitis [6]. The policy of ophthalmologist in our hospital is to investigate patients only with severe anterior, chronic or recurrent forms of uveitis. Chronic uveitis is defined as uveitis that lasts for more than 3 months. The main age of patients included in this study was 37 years, with male to female ratio of 1.6:1, this result is very closed to what found in India by Das D. et al [7] who found that the most age group

affected in uveitis are people between 30 and 38 years and male constituted 62% of the cases. Unfortunately there are no studies about the prevalence and patterns of uveitis in Jordan but according to other studies conducted elsewhere; (8,9) the most common pattern of uveitis was anterior Uveitis and found in 50 patients (60%), followed by posterior uveitis which was found in 19 patient (23%).

The most common type of Uveitis which yielded positive laboratory results was anterior uveitis, 38% of patients had no specific positive results in the form of increased ESR, CRP and FBS. 76% of patients yielded positive laboratory investigations, the most common laboratory positive result was HLA B27 which was found in 38% of patients with anterior uveitis, Although only 6 patients of those (21%) were diagnosed to have ankylosing spondylitis or Reiters disease , in the remaining patients (17%) the cause of uveitis was unknown , this suggests the role of HLA B27 in the development of anterior Uveitis, many studies showed the effect of HLA B27 possession on the development of uveitis,[10] it is estimated that 20% of HLA B27 positive patients develop uveitis,[11] in Jordan Ayman A. et al. found that 22% of patients with ankylosing spondylitis have anterior uveitis [12] The second

positive specific laboratory result found in was HLA B5, it was found in 24% of patients with anterior uveitis, although HLA B5 is not a criteria but it is usually associated with Behcet's disease which is common in Mediterranean,[13] only 10% of those were diagnosed to have Behcet's disease, increase of HLA-B5 prevalence among anterior uveitis patients without having systemic disorders this also suggests the role of HLA-B5 in the pathogenesis of anterior uveitis or still the clinical diagnosis of Behcet's disease not completed yet ,and the patients need long time follow up to wait until the remaining criteria for Behcet's disease appear [14]. RF was positive in two patients, this may reflect the prevalence of RF positive among the population rather than among Uveitis patients. VDRL helped in the diagnosis of the etiology of uveitis in one patients and ANA was also positive in one patient who belonged to pediatric age group. As a result laboratory investigation was helpful to determine the etiology of uveitis in 38% of patients with anterior uveitis, which is higher than that found in other studies, [3] that is probably because of the selective criteria used to investigate patients with uveitis and the exclusion of the milder forms of acute uveitis. In patients with intermediate uveitis laboratory investigation was less helpful; only 2 patients were found to have HLA B27 and one patient had HLA B5 and elevated blood sugar, the diagnosis was made in only one patient as having diabetes. Laboratory investigation was unhelpful in patients with pan uveitis, the reason of that might be due to the fact that most of the causes of pan uveitis are ocular in origin rather than secondary to systemic disease, in posterior uveitis the laboratory investigation was helpful in establishing the diagnosis in 3 patients (16%), although this is considered very low compared to patients with anterior uveitis (76%) but it is very important if we take in consideration that posterior uveitis are more sight threatening and worse prognosis than the anterior uveitis.

This study showed that the most common pattern of uveitis among Jordanian patients is anterior uveitis, laboratory investigations were more helpful in patients with anterior and to a lesser extent posterior uveitis. We recommend investigating patients with uveitis.

5. Conclusion

The most common pattern of uveitis among Jordanian patients is anterior uveitis and the most common cause is idiopathic, laboratory investigations were more helpful in patients with anterior and to a lesser extent posterior uveitis.

Acknowledgements:

6. Reference

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