

## Detection of Anti-*Chlamydia pneumonia* IgG and Anti-*HSV-1* IgG antibodies in sample of Iraqi Behcet's disease patients

التحري عن أضداد *Chlamydia pneumonia* و HSV-1 من نوع IgG في عينة من مرضى عراقيين مصابين بمرض بهجت

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### Abstract

Behcet's disease (BD) is a chronic inflammation with characterized lesion, including oral ulcer, skin lesion, genital lesion and ocular manifestation. It affects both genders. The etiologies of BD is unknown genetic, bacterial and viral have proposed as causative agents, for that reason the aim of this study to detect Anti-Herpes Simplex Virus-1(HSV-1) IgG antibody and Anti-*Chlamydia pneumonia* IgG antibody by ELISA in sera of seventy Iraqi patients and twenty Iraqi healthy control. 34.2% of patients have Anti-*HSV-1* IgG antibody while 21.4% of patients have Anti-*Chlamydia pneumonia* IgG antibody, this lead to suggest that HSV-1 and *Chlamydia pneumonia* may be one of the etiological factor in BD.

Key words: Behcet's disease, chronic inflammation

### المستخلص

يعد مرض بهجت من الأمراض الالتهابية المزمنة المصاحبة بظهور تقرحات فموية، معوية ، تناسلية وإصابات أخرى متضمنة العين ، ويمكن أن يصيب كلا الجنسين. إمراضية مرض بهجت غير معروفة لحد الآن ولكن يعتقد أن العامل المسبب قد يكون فايروسي أو بكتيري في الأشخاص ذوي الاستعداد الوراثي، لذا فإن الدراسة الحالية تهدف الى التحري عن أضداد *Chlamydia pneumonia* و HSV-1 من نوع IgG في مصل 70 مريض عراقي مصاب بهذا المرض وبطريقة الأليزا وبالمقارنة مع 20 شخص عراقي سليم . أظهرت النتائج إن 34.2 % في مصل المرضى موجبة لفحص أضداد HSV-1 نوع IgG و 21.4 % موجبة لفحص أضداد *Chlamydia pneumonia* نوع IgG والتي من الممكن أن تلعب دورا كعامل مسبب لمرض بهجت .

الكلمات المفتاحية: مرض بهجت ، الالتهابية المزمنة

### Introduction

Behcet's disease (BD) owes its name to Turkish dermatologist Hulusi Behcet in 1937, who described three complex symptoms of oral ulcer, genital ulcer and recurrent eye inflammation [1]. The etiology of BD is uncertain, but genetic, environmental (bacterial and viral), immunological factors have proposed as causative agents. The pathogenesis is probably mediated by a combination of these factors [2]. The symptoms can last few days to a month or more and can reoccur again [3]. It runs a chronic course of unpredictable exacerbation and remission with frequency and severity of symptoms that may diminish with time [4]. Although the etiology of disease is still unknown, high prevalence of HLA B51 considered important in its pathogenesis [5], in previous study they found a significant of HSV-1 IgG genome in BD. patients [6], others found that *Chlamydia pneumonia* in BD. patients [7].

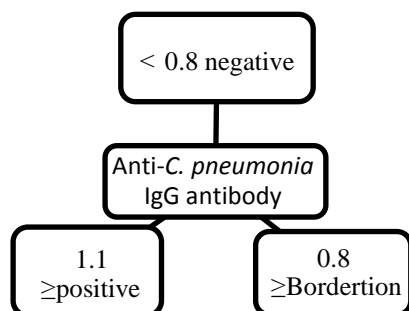
### Material and Methods

A total of seventy Iraqi Arab patients, those patients are referred to HLA laboratory in teaching laborites in Baghdad Medical City from April 2009 – May 2010. A careful history is obtained from each patients. Twenty apparently healthy persons who matched with patients for age and gender were selected. Three milliliters of venous blood samples were collected in plain tube and leave it to clot, then centrifuged at 3000 rpm for 10 minutes in order to collected serum. Anti-*Chlamydia pneumonia* IgG antibody in serum was detected by ELISA method according to Euroimmune, UK, while Anti-*HSV-1* IgG antibody was detected by ELISA method according DRG company, USA.

### Calculation of results

• **Detection of anti-*Chlamydia pneumonia* IgG antibody:** was calculated semi quantitative, result can be evaluated by calculating ratio of optical density (O.D.) sample/absorbent of calibrator.

- **Detection of anti-HSV-1 IgG antibody:** was calculated the index by dividing the O.D. of each samples by calibrator O.D..



Positive result of HSV-1 IgG antibody index  $\geq 1$ .

Negative result of HSV-1 IgG antibody index  $< 0.9$ .

### Statistical analysis

The person's chi-square test was used to assess significant differences by computer program IBM SPSS version 21 to perform these analyses.

### Results and Discussion

The results has shown twenty four patients (34.2%) of HSV-1 IgG antibody in patients group and there was significant differences comparing with control group (Person's chi-square = 11.95; D.F. = 2;  $P \leq 0.05$ ), as shown in figure [1]. So, the result of present study which confirm the other studies and gave suggestion that anti-HSV-1 IgG may have a role in pathogenesis of BD. Huluci Behcet proposed that the disease caused by a special virus and he observed intra-cellular inclusion like forms in smear from hypopyon of anterior chamber and aphthae ulcer in Turkey [8].

Other found that 30 % of mice had clinical manifestation resampling the actual disease after inoculation of HSV – 1 [9]. Serum antibody against HSV – 1 have been found in a higher proportion of patients with BD than in control [10].

Anti-HSV-1 IgG antibody was increased in sera during the active phase of BD in Tunis [11]. Others showed, in genetic susceptible individual, there was a role of HSV-1 in pathogenesis of BD [5, 12, 13].

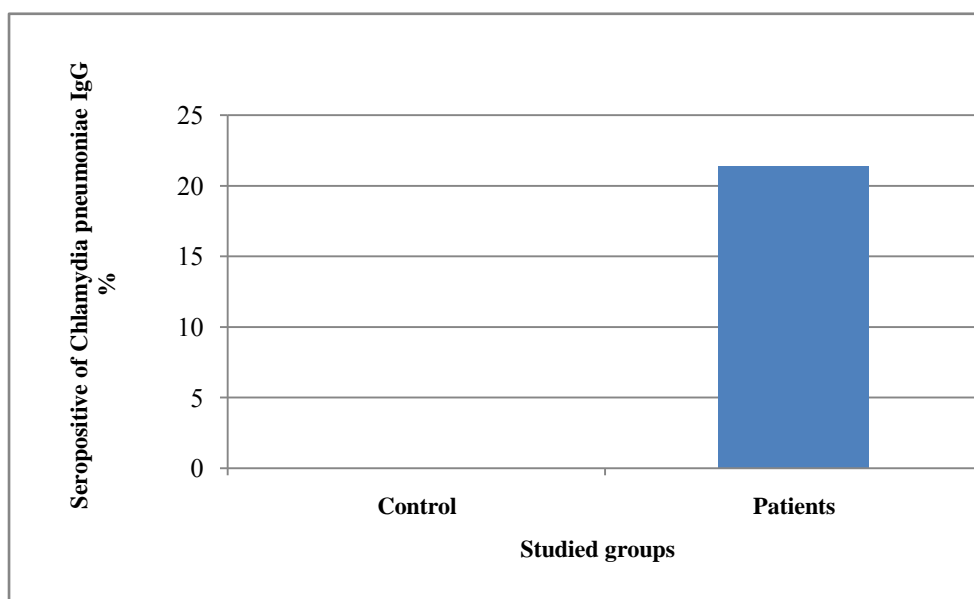


Figure (1): HSV – 1 IgG antibody in studied groups

The results of present study about anti-*Chlamydia pneumoniae* IgG antibody showed positive results in fifteen patients (21.4%) as in figure [2], while others found that the anti-*Chlamydia pneumoniae* IgG antibody were 43.1% in patients compared with control group 13.9%. This finding provides serological evidence of *Chlamydia pneumoniae* infection in association with BD [7]. The results of present study lead to suggest that HSV-1 and *Chlamydia pneumoniae* may be one of the etiological factors in BD in susceptibility person.

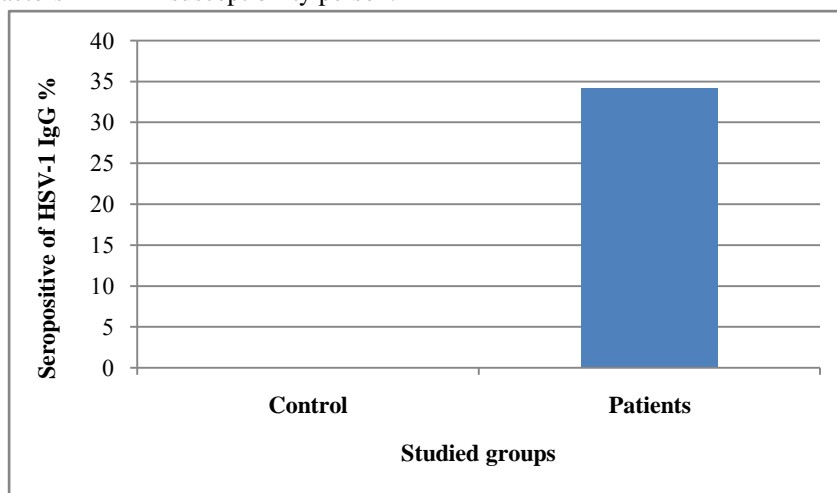


Figure (2): *Chlamydia pneumoniae* IgG Antibody in studied groups

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