FRI0442

APPROPRIATE USE OF SEROLOGY TESTS FOR THE DIAGNOSIS OF LYME DISEASE. EXPERIENCE IN AN URBAN AREA

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Background: Lyme disease (LD) is a multisystemic animal-borne disease caused by spirochetes of the *Borrelia burgdorferi* s.l complex and transmitted by ticks of the species *Ixodes ricinus*. In Spain, most cases occur in rural areas of the north-east region with a peak of maximum incidence between spring and early autumn. The diagnosis is based on a history of potential exposure to ticks, the recognition of characteristic clinical manifestations and serological testing.

Objectives: To assess the suitability of serological study for the diagnosis of LD in an urban area.

Methods: Retrospective observational study that included all LD serology tests made between April 2017 and September 2019 at a tertiary hospital in Barcelona covering a population of 450,000 people. Demographic data and the medical department that requested the serology test were collected along with serology test results. The medical records of patients with positive serology were consulted to identify which patients were finally diagnosed with LD along with their clinical manifestations, treatment and outcome.

Results: A total of 574 serological tests were included and 78 (13.59%) of them were positive. Only 1.04% (6) of all serological tests belonged to patients finally diagnosed with LD. The department that made most requests was Neurology (37.3%) followed by Infectious Diseases (21%), Internal Medicine (14.5%), Emergency Medicine (4.7%), Dermatology (4.5%), Critical Care Medicine (2.3%) and Rheumatology (2.1%). 50% of the diagnosed patients were women with a mean age of 57.7±7.7DE years. In 50% of diagnosed cases, patients remembered a tick bite during activities in the mountain or rural areas. The most common clinical manifestations were erythema migrans (67%), non-inflammatory arthralgias (50%), fatigue and malaise (67%), together with one case of meningoencephalitis and one of knee monoarthritis. All diagnosed patients received antibiotic treatment with ceftriaxone (33%) or doxycycline (66%). Only one patient presented post-Lyme syndrome.

The serological test for LD in our center had a total individual cost of 15.75 eur, so the cost of the 574 requests was 9,040.5 eur. 7,812 eur corresponded to negative results and 1,134 eur to false positive results.

Conclusion: Our study indicates the overuse of diagnostic testing for LD with implications for patient care and cost-effective health management. In the absence of a history of potential exposure to infected vector ticks or characteristic clinical manifestations, unnecessary microbiological tests should not be performed.

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FRI0443

CLINICAL CHARACTERISTICS AND RELATED FACTORS OF COMMON RHEUMATIC DISEASES COMPLICATED WITH TUBERCULOSIS INFECTION

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Background: Rheumatoid arthritis (RA), systemic lupus erythematosus (SLE), and syndrome(SS) are common rheumatic diseases with high incidence. Patients with those rheumatic diseases are at high risk of tuberculosis (TB) infection. However, manifestations can be atypical and easily confused with those of rheumatic disease itself. For those patients, diagnosis is usually much more difficult and further make treatment delayed. Sometimes it may lead to mistreatment. Therefore, it is important to recognize the clinical characteristics of those patients.

Objectives: To explore the clinical characteristics and high risk factors of common systemic rheumatism complicated with tuberculosis infection.

Methods: A total of 3,906 cases of RA, SLE, and SS common systemic rheumatism diagnosed in the People's Hospital of Sichuan Province from

January 2007 to January 2017 were collected with carefully exclusion with other infectious diseases and neoplastic disease. One hundred and five patients with TB were included as infection group, including 42 cases of RA, 41 cases of SLE, and 22 cases of SS. In the control group, 84 patients with RA, 82 patients with SLE, and 44 patients with SS were randomly selected from the corresponding rheumatoid non-infected patients hospitalized during the same period.

Results: Fever was the most common symptom among 42 cases of RA, 41 cases of SLE, and 22 cases of SS with TB, accounting for 83.3%, 92.7%, and 68.2%, respectively. Cough, weight loss or fatigue was less common. For 41 cases of SLE and 22 cases of SS with TB, the proportion of pulmonary was 46.3%, 59.01%, respectively. In TB infection group, 27 cases of RA, 21 cases of SLE, and 13 cases of SS with TB had two or more chest CT findings, accounting for 59%, 57%, 62%, respectively. Lesions located in the posterior or posterior segment which TB usually affected were 9 cases(33.3%), 9 cases(42.9%), 6 cases(27.2%), respectively. The daily average dose of hormones within 1 year in TB infection group was higher than that in the control group (P<0.05). For SLE patients, lower counts of CD4+TL were found in TB infection group (P<0.05), while no such differences were found in RA and SS group.

Conclusion: Patients with RA who have TB infection are mainly pulmonary TB. For SLE and SS patients, the chance of pulmonary tuberculosis and extra-pulmonary tuberculosis is similar. Symptoms of RA, SLE, SS with TB, such as fever, cough, weight loss, fatigue, are similar with the primary disease or other infection. Chest imaging is diversity. It is difficult to diagnose. Daily average dose of hormone within one year may be a common risk factor for RA, SLE and SS patients with TB. Decreased CD4+TL may also be a risk factor for SLE patients with TB.

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FRI0444

HPVB19 INFECTION IN ADULT 53 CASES

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Background: Human parvovirus B19(HPVB19) is a member of the large *Parvoviridae* family and, as a human pathogen, is responsible for various diseases.

¹ In children, HPVB19 infections usually presents as red rash, which is often described as a "slapped cheek." However, the presentation varies in adults.² HPVB19 outbreaks mostly occur in the winter and spring.¹ The serum IgM test is the preferred means for diagnosing acute HPVB19 infections.²

Objectives: We investigated the epidemiology, clinical symptoms, and time course of HPVB19 infections in real-world practice by examining patients treated at a community hospital in Japan.

Methods: We studied adult patients with HPVB19 infections at Suwa Central Hospital from April 2010 to November 2019. Patients who were age 18 years or older, anti HPV B19 IgM antibody-positive, and symptomatic were included. We retrospectively examined the patients' medical records to determine onset days, clinical symptoms and antinuclear antibody(ANA)-positive rates. We defined day 1 as the day when clinical symptoms first appeared.

Results: 53 patients were included in the study. Patient characteristics were mean age 43 years, female 79.2%, mean period from onset to diagnosis 13days. Epidemic season were 4year cycle. (Figure 1) Clinical symptoms and time course from onset day were upper respiratory symptoms(17.0%, 1.7days), fever(54.7%, 1.9days), abdominal symptoms(15.1%, 4.4days), edema(47.2%, 5.6days), arthralgia(71.7%, 6.6days), itching(15.1%, 6.9days), rash(62.3%, 8.9days) and lymphadenopathy(30.2%, 10.2days). (Figure 2) ANA positive rate was 50%(13/26) and average was 92.3.

Conclusion: 53 adult patients infected HPVB19 in 10 years at community hospital in Japan. Epidemic season were 4year cycle and skin eruption and joint symptoms appeared 4-5 days after upper respiratory symptoms. Previous study show that a second-phase illness with rash and arthralgia appear 10-11 days after the appearance of upper respiratory symptoms.³⁾ In our study, a second-phase symptoms appeared about one week earlier than in previous study. Half of the patients were weakly ANA positive.

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Season of onset

Clinical symptoms and time course

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FRI0445 HLA-B27 IN POSTSTREPTOCOCCAL REACTIVE ARTHRITIS WITH ENTHESITIS

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Background: Poststreptococcal reactive arthritis (PSRA) is a very common diagnosis in rheumatology practice, which develops after recent pharyngeal streptococcal infection and characterized by aseptic inflammation in one or more joints and periarticular involvement. Now no diagnostic criteria have been agreed [2,4]; association of the expression of HLA-B27 and PSRA is not clear [1,3].

Objectives: In our study we analyzed the features of PSRA in presence of HLA-B27.

Methods: 88 patients (48 female and 40 male) aged between 18-55 years with complains of pain, tender and swollen joints developed after recent pharyngeal streptococcal infection underwent standard physical and laboratory rheumatological examinations. Acute rheumatic fever and other inflammatory arthritis were excluded.

Results: 60 patients (68,2%) had oligo-polyarthralgia, 10 patients (11,4%) - monoarthritis, 24 patients (27,3%) had asymmetrical oligoarthritis, 4 patients (4,5%) had polyarthritis, enthesitis was found in 4 (4,5%) patients, tenosynovitis of the palmar flexor tendons in 10 cases (11,4%) and the peroneal tendons of the ankles in 5 patients (5,7%), one-sided sacroiliitis (confirmed by MRI) in 5 patients (5,7%). The mean level of ASL-O was 542U/ml, CRP -15mg/L, ESR -34mm/H; HLA-B27 was present in 24 (30,7%) patients. HLA-B27 positivity was

connected to enthesitis, sacroiliitis, more joint involvement with higher levels of ESR and CRP.

Conclusion: 30% of patients with poststreptococcal reactive arthritis are HLA-B27 positive, the presence of HLA-B27 leads to more frequent development of enthesitis, polyarthritis and sacroiliitis with higher level of inflammatory activity which dictate the need for longer supervision of such patients for possible triggering of ankylosing spondylitis development.

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FRI0446 VIRAL ARTHRITIS: DESCRIPTIVE ANALYSIS OF A SERIES OF 131 PATIENTS

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Background: Arthritis of viral aetiology is considered the most frequent cause of acute arthritis. The most common etiologic agent is parvovirus B19 (B19). Besides, other viruses can lead to inflammatory joint disease, such as Epstein-Barr virus (EBV), Cytomegalovirus (CMV), Human immunodeficiency virus (HIV), Rubella, Mumps, Hepatitis B and C virus (HBV and HCV) and Chikungunya (in transcontinental travellers or immigrants).

Objectives: To describe the epidemiological characteristics, clinical and analytical course, evolution and treatment of a series of patients with a confirmed diagnosis of viral arthritis.

Methods: A descriptive study was performed, considering a series of cases of viral arthritis collected between 2000 and 2019. Epidemiological (sex, age, the season of the year, year of diagnosis, children of pediatric age), clinics (joint pattern, prodromes, accompanying clinic) and analytical (CRP, ESR, ANA, RF) variables were collected. Statistical analysis was performed with the SPSS 22.0 program.

Results: The data of 131 patients (109 women, 22 men), with a mean age of 39.7 years (SD 11.9) were collected. 93.9% of the cases were produced by B19, 3.8% by EBV, and only 3 by other viruses (1 by CMV, 1 by HBV, 1 by Mumps). The highest incidence years were 2005(55 cases), 2000(10 cases) and 2016(8 cases). Almost half of the cases (46.6%) occurred in spring, while 32.8% in summer, 15.3% in winter and 5.3% in autumn. Contrary to the expectations, only 20% of the patients had children in pediatric age.

The most frequent clinical picture was acute polyarthritis (53.4%), followed by inflammatory polyarthralgias (19.1%). Moreover, acute oligoarthritis was present in 10.7% of cases, and acute monoarthritis in 3.1% of cases. More than half of the patients (54.2%) had prodromes, most frequently respiratory symptoms, and the joint clinic was accompanied by a skin rash in 35.1% and fever in 29% of cases. Analytically, 33.6% presented high CRP, 39.7% high ESR, 19.8% transient anemia, 9.9% positive ANA (4.6% transiently), 9.1% anti dc-DNA (7.6% transiently), and 10.7% positive RF (3.1% transiently). In 79.4% of cases, the clinic picture was limited, with a mean duration of 36 days (SD 47.7), but 12.3% had recurrences. The 69.5% of the patients needed treatment with acetaminophen and/or NSAIDs (6.7% did not need treatment), but corticotherapy was needed in 21.4% of cases. 4.6% of the cases evolved to chronicity, which made DMARD necessary in 3 patients (two of them with a final diagnosis of rheumatoid arthritis, being treated with Methotrexate and Leflunomide, and the third one had a diagnosis of undifferentiated connective disease, treated with Hydroxychloroquine).

Conclusion: B19 remains the most common cause of viral arthritis in our population. It appears with a sporadic, occasionally epidemic, pattern of presentation, predominantly in warm seasons. A clinical presentation as an oligoarthritis or an acute monoarthritis or even the positivity of autoimmunity markers, should not make us rule out this possible aetiology. One out of 20 cases can evolve to chronicity and even make necessary the addition of DMARD.