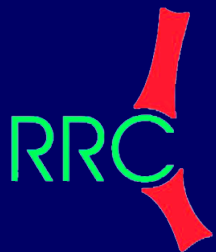


COVID-19

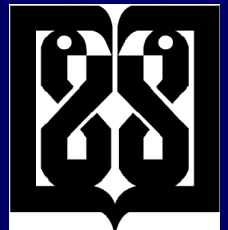
&

Behcet Disease

(Experience in Iran)



Behcet Disease Unit
Rheumatology Research Center
Tehran University of Medical Sciences



COVID-19 in Iran

(As January 21, 2021)

- **Total case: 1,354,520**
16013/million population
- **Total recovered: 1,144,549**
- **Death: 57,150**
676/million population
- **Testing:**
102078/million population

SOURCE: Johns Hopkins University CSSE and
WHO COVID-19 Dashboard

COVID-19 and BD in Iran

(36 cases, March 2020 to January 2021)

- **Tehran (RRC): 15** (F. Shahram, M. Alikhani, H. Kavosi)
- **Mashhad (MUMS): 7** (Z. Rezaie Yazdi, Z. Mirfeizi)
- **Kashan (KAUMS): 5** (K. Esalatmanesh)
- **Tabriz (TUOMS): 4** (A. Khabbazi)
- **Zanjan (ZUMS): 3** (A. Sadeghi)
- **Tehran (AJAUMS): 2** (M. Soroush)

COVID-19 and BD in Iran

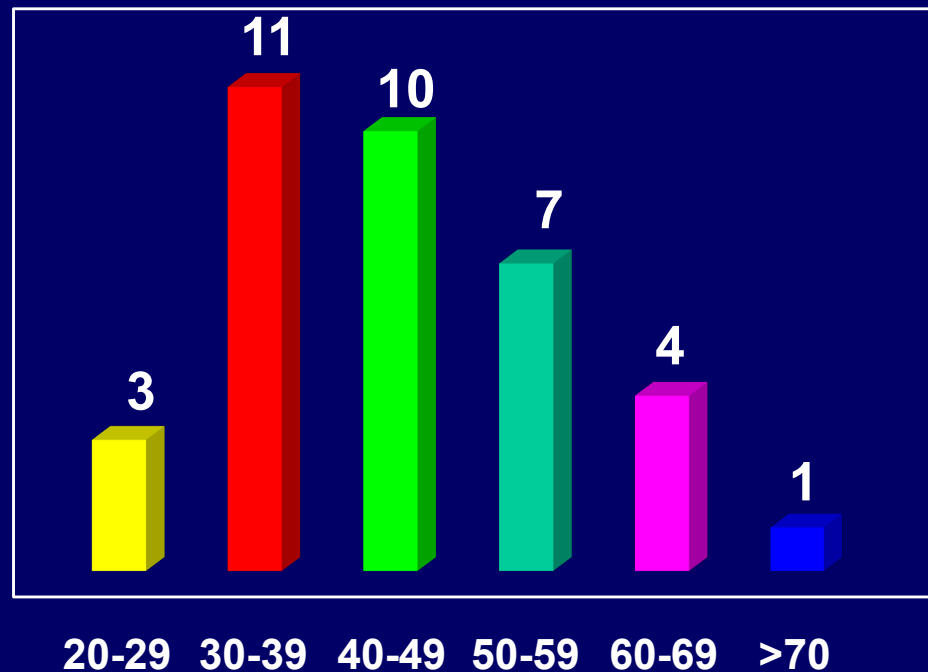
(Report of 36 cases)

- **BD Diagnosis**
 - **ICBD criteria: 36 (100%)**
 - **ISG criteria: 30 (83%)**
- **Covid-19 diagnosis**
 - **Positive PCR: 33 cases**
 - **Positive COVID-19 IgM test: 1 case**
 - **Compatible clinical setting: 2 cases**

COVID-19 and BD in Iran

(Sex and age distribution)

- **Sex** Female: 21; Male: 15
- **Age** Range: 20 to 80 yrs; Median: 45 yrs



COVID-19 and BD in Iran

(BD manifestations)

| <u>Major</u> | <u>No (%)</u> | <u>Minor</u> | <u>No (%)</u> |
|--------------------|---------------|--------------------|---------------|
| Oral aphthosis | 36 (100) | Constitutional | 4 (11) |
| Genital aphthosis | 17 (47) | Articular | 18 (50) |
| Skin lesions | 19 (53) | Vascular (venous) | 7 (19) |
| Pseudofolliculitis | 9 (25) | CNS | 2 (6) |
| Erythema Nodosum | 13 (36) | Gastro-intestinal | 3 (8) |
| Ocular lesions | 20 (56) | Epididymitis (men) | 1 (7) |
| Uveitis | 18 (50) | Pathergy | 22/30 (73) |
| Retinal Vasculitis | 14 (39) | HLA-B5/B51 | 18/31 (58) |
| | | Familial history | 4/31 (13) |

COVID-19 and BD in Iran

(BD phenotypes)

- **Skin-mucosa: 11 (31%)**
- **Eye: 16 (44%)**
- **Vasculo-Behcet: 7 (19%)**
Three with ocular involvement
- **Neuro-Behcet: 2 (6%)**
One with ocular involvement

COVID-19 and BD in Iran

(Medication used when infected)

- **None: 3 (8%)**
- **Corticosteroids: 32 (86%)**
- **Immunomodulators: 17 (46%)**
 - Colchicine: 14; Sulfasalazine: 4; Mycophenolate: 1
- **Cytotoxic drugs: 24 (65%)**
 - Azathioprin: 12; Methotrexate: 11; Cyclophosphamide: 2
- **Biologic drugs: 5 (14%)**
 - Anti-TNFs: 3 (2 biosimilar), Interferon: 2



COVID-19 and BD in Iran

(Comorbidities)

- **In 12 patients (33%)**
 - **Diabetes: 5; Hypertension: 4; Obesity: 3; Cardiac disease (CAD, HF): 3; Renal disease (CKD): 2; Pulmonary disease (Asthma): 1**
 - **Seven patients with single comorbid disease, 3 with two, and 2 with 3 diseases**

COVID-19 and BD in Iran

(COVID symptoms and signs)

| | <u>No (%)</u> | | <u>No (%)</u> |
|------------------------------------|----------------|------------------------------|----------------|
| Fever | 24 (65) | Cold symptoms | 9 (24) |
| Headache | 14 (38) | Gastro-intestinal | 14 (38) |
| Flu like (Fatigue, myalgia) | 34 (92) | Shivering | 14 (38) |
| Loss of taste/Anosmia | 20 (54) | Weight loss | 1 (3) |
| Cough | 22 (59) | Sweating | 1 (3) |
| Dyspnea/chest tightness | 17 (46) | Vertigo | 1 (3) |
| Expectoration | 5 (14) | Illusion/restlessness | 1 (3) |
| Pulmonary involvement | 18 (49) | Skin involvement | 0 |

COVID-19 and BD in Iran

(Effects on Behcet disease)

- **Symptoms**

- No change: 25 (68%)
- Disease flare: 12 (32%)

- **Treatments**

- Not changed: 22 (59%)
- Medications decreased or discontinued: 12 (32%)
- Treatment intensification: 3 (8%)

COVID-19 and BD in Iran

(Treatment regimen for COVID)

- **Unknown: 4 (11%)**
- **Symptomatic: 12 (32%)**
- **Antiviral drugs: 10 (27%)**
 - Remdesivir: 4; Sofosbuvir/Daclatasvir: 4; Favirapir: 2; Lopinavir/ritonavir: 1
- **Antibiotics: 17 (46%)**
 - Azithromycin: 13; Ceftriaxone: 2; Ciprofloxacin: 1; Doxycyclin: 1; Tazocin: 1
- **Corticosteroids: 8 (22%)**
- **Hydroxychloroquine: 5 (14%)**
- **Interferon – beta: 4 (11%)**

COVID-19 and BD in Iran

(Outcome)

- **Hospitalization: 11 (30%)**
- **Death: 1 (3%)**
- **Morbidity (complication): 2 (5%)**

BD flare: 12 (treatment change in 3)

DVT and pulmonary embolism: 1

COVID re-infection: 1

COVID-19 and BD in Iran

(Comparison with general population)

| | <u>BD*</u> | <u>Normal population*</u> |
|-----------------|------------|---------------------------|
| Total cases | 0.31 | 1.60 |
| Recovered | 97 | 84 |
| Death | 2.7 | 4.22 |
| Testing | 1.79 | 10.2 |
| Test positivity | 13.33 | 15.69 |

* Percentage

COVID-19 and BD in Iran

(Case report – COVID re-infection)

- A 46 year old man with a history of BD for 7 years (with oral and genital ulcers, pseudofolliculitis, arthralgia and jugular vein thrombosis; negative HLA-B51), on Azathioprine and low dose prednisolone. He also had a comorbid heart disease (CAD).
- March 2020: Presented with myalgia, anorexia, nausea, vomiting, diarrhea, dyspnea and expectoration with mild pulmonary involvement. The PCR test was positive for COVID. Treated at home with symptomatic treatments, and getting better with negative PCR after 2 weeks.

COVID-19 and BD in Iran

(Case report – COVID re-infection cont.)

- **June 2020: Developed again the same symptoms this time with additional cough, loss of taste and anosmia. PCR became positive again. HCQ was administered for 10 days along with symptomatic treatments. COVID-19 resolved without complications.**

COVID-19 and BD in Iran

(Case report – Triggering BD)

- **July 2020: A 57 year old man presented with fever, sore throat, nasal stiffness, cough, fatigue and myalgia. He had mild dyspnea, diarrhea, anosmia, illusion and restlessness. He had a history of NIDDM and was on glibenclamide. PCR test was not done, but diagnosed clinically as having COVID infection. Azithromycin was prescribed along with symptomatic treatments at home. All symptoms resolved completely after 4 weeks.**

COVID-19 and BD in Iran

(Case report – Triggering BD cont.)

- **Three months later, he developed recurrent oral and genital ulcers, arthralgia and constitutional symptoms. HLA typing was positive for B51. The diagnosis of Behcet disease was reached upon above symptoms and Colchicine was started.**
- **We may suggest COVID-19 infection as a trigger for the appearance of BD symptoms in this case.**

COVID-19 and BD in Iran

(Limitations)

- **The majority have been diagnosed elsewhere, and contacted us during their routine follow-up visits or for consulting about their disease status and medications after infection**
 - **Asymptomatic BD patients were not routinely tested**
 - **Whole BD population were not investigated for COVID-19 infection**
- **Patients with milder infection or those who could not reach us due to quarantine and other restrictions may not be represented**

COVID-19 and BD in Iran

(Report summary)

- **The incidence of COVID-19 infection among patients with BD in Iran is not higher than that observed in the general population**
- **Patients with BD had a COVID-19 clinical picture resembling the general population**
- **The severity of infection was milder**
- **We found a similar risk of hospitalization, with lower morbidity and mortality rate in patients with Behcet disease**

COVID-19 and BD in Iran

(Report summary)

- BD patients with COVID infection had similar BD features except for higher rate of vascular involvement and positive pathergy test
- Most of them (92%) were on immunomodulator or immunosuppressive drugs, but there was no difference in the clinical behavior of patients using different drugs
- One third had a comorbid disease apart from BD
- In most cases COVID infection had no effect on BD symptoms or treatment
- Of note, was a case with new development of BD, suggesting COVID infection as a possible trigger

Thanks for your kind attention

