

Polyarthralgia With Acromioclavicular Joint Arthrosis In Post Covid -19 Patient

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Abstract

Introduction: We had a case report of polyarthralgia with acromioclavicular joint arthrosis in post covid-19 patient and its management.

Presentation of case: One case was diagnosed with polyarthralgia with acromioclavicular joint arthrosis in orthopedic unit and got discharged on 5th day of admission with follow-up treatment. The patient came with chief complaints of mulpite joint pain, swelling over right side shoulder, tenderness, and stiffness over the right shoulder. With proper history and physical assessment the patient was diagnosed as acromioclavicular joint arthrosis. Initially the patient was treated with pain killer and anti-inflammatory drugs then acromioclavicular joint steroid injection was given under local anesthesia. Then the patient got discharged with follow-up treatment and restriction over the right shoulder

Discussion:

Post covid -19 problems develops mainly due to low immune system and also hormonal disturbance among the patient and it can be treated in the initially stage with proper treatment regimen. Further advanced treatment is needed to assess the condition of the patient during the recovery among covid positive patients

Conclusion: Further research related to diagnostic methods and treatment modalities to reduce and incidence. There is need to create prophylactic protocol for control and treatment of this disease.

Keywords: Post Covid-19 recovery , adult, Polyarthralgia, acromioclavicular joint arthrosis

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I. Introduction:

Sudden outbreak of covid -19 through worldwide which had great impact on health of person. In medical field the spread of pandemic disease among the adult age which seen to have more health related problems which arise in younger adult and also in the older adult also¹. When the person who is having co morbidities like diabetes, hypertension, hormonal imbalances, renal failure etc had greater issues in their health². This co morbidities had lead severe problems like post recovery dehydration, cardiac vascular problems , orthopedic issues, black fungus etc. globally most of the person had headache, multiple joint pain and malaise during infection period and also in post recovery period also³. When person is suffering from orthopedic problems the person may be due to immune suppression because of drugs and hormones imbalance during the disease prognosis. Similarly the drugs which used for the treatment of cavid-19 had made the immune to worse condition which lead a way to newer oppuoronity infection which not common during the recovery period of the disease⁴.

II. Case Presentation

A 55 years old female patient got admitted in selected hospital, Puducherry. She came with the chief complaints of right side shoulder pain with pain scale score of 8 for past 10 days and tenderness, swollen over the right side shoulder, stiffness & numbness over right shoulder for past 5 days. In the left shoulder moderate pain of pain sc ale score of 6 for past 3 days. After first day of admission, the patient suddenly developed over lower extremities with pain scale score of 3 mild levels. During the time of admission thorough history collection was carried with reverent history of COVID -19 positive recovery before 10 days of hospitalization and menstrual history of menopause at the age of 50 years. Intially the patient was diagnosed as pseudoparalysis with polyarthralgia.

Investigations

Blood investigation:



The patient had undergone blood investigations as follows:





| s.no | Investigations | Patient value | Impression |
|------|---|--------------------------|------------|
| 1. | Serum vitamin D ₃ | 17.51 ng/ml | Decreased |
| 2. | C-reactive protein | 2 mg/dl | Increased |
| 3. | Serum uric acid | 4.5 mg/dl | Normal |
| 4. | Cyclic citrullinated peptide antibodies | 9 units | Normal |
| 5. | Blood glucose level | 99 mg/dl | Normal |
| 6. | Rheumatoid factor | 10 IU/ml | Normal |
| 7. | ESR | 24 mm/hr | Normal |
| 8. | Red blood cells | 13 * 10 ³ /ul | Normal |
| 9. | Hemoglobin | 11.4 gm/dl | Normal |
| 10. | Hematocrit | 38 % | Normal |
| 11. | Serum protein | 6 gm/dl | Normal |
| 12. | Fibrinogen | 0.4 gm/dl | Normal |
| 13. | Platelets | 6.4* 10 ³ /ul | Normal |
| 14. | Leukocytes | 10* 10 ³ /ul | Normal |
| 15. | Neutrophils | 5 * 10 ³ /ul | Normal |
| 16. | Lymphocytes | 7 * 10 ³ /ul | Normal |
| 17. | Eosinophils | 2 * 10 ³ /ul | Normal |

Radiological studies:

| s.no | Radiological studies | Part | Impression |
|------|----------------------|----------------|---|
| 1. | X-rays | Right shoulder | GRD (Latissimus dorsi) is decreased in right then left side |
| | | Left shoulder | |
| 2. | MRI scan | Right shoulder | -Thick inferior glenohumeral ligament with 9 mm in Axillary pouch -Acromioclavicular joint arthrosis -No index of impingement -Type-4 in concave acromioclavicular |
| | | Left shoulder | -Mild Acromioclavicular joint arthrosis -No index of impingement -Type-4 in acromioclavicular |

From the blood and radiological studies, the patient was diagnosed as Polyarthralgia with acromioclavicular joint arthrosis by using the **Rockwood Grades of Injury**^{5,6} which follows:

| s.no | Grades | Types | Findings | Patient impression |
|------|---------|---|---|--------------------|
| 1. | Type -1 |  | - AC ligaments is sprain - CC is normal | |
| 2. | Type-2 |  | - AC is torn - CC is sprain | |
| 3. | Type-3 | | - Disruption of both the AC and CC ligaments - Deformity of the clavicle | |

| | | | | |
|----|--------|--|--|--|
| | |  | | |
| 4. | Type-4 |  | <ul style="list-style-type: none"> - Disruption of both the AC and CC ligaments - Displaced of the lateral clavicle to posterior | Thick of the AC of 9 mm over the right side and mild torn in left side |
| 5. | Type-5 |  | <ul style="list-style-type: none"> - Increased in the space of the CC ligament - Droop of the shoulder | |
| 6. | Type-6 |  | <ul style="list-style-type: none"> - Parasthesia occurred - Injury of the nerve and vascular structure | |

Management and follow-up

Initially the patient was treated with T.Naprosyn 250 mg BD, T.Esofag 40 mg OD, T.Clagen 1 gm OD and T.Dolo 650 mg BD at the time of admission. After the radiological study the patient was prepared steroid injection with pre procedure with NPO for 6 hours, Inj.T.T 0.5 ml IM and Inj.Fevastin 150 mg IM was prescribed by the physician.

During the procedure, under strict aseptic precautions and under ultrasound guidance. Both side shoulder was injected with subacromial bursa injection given with Inj.Diprosan 40 mg + Inj.Xylo with Adrenaline 2% - 0.2 ml + Inj. Sensorcaine 0.5% -1ml was injected on each side. Further same drug was injected in right side Glenohumeral joint in posterior with Ultrasound guidance.

After the procedure, the patient got discharged on the next day with treatment as T.Signoflam 100 mg BD for 5 days, T.Dolo 650 mg OD for 5 days, T.Tripwin 40 mg BD for 5 days, T.Esofag 40 mg OD for 10 days and T.Celin 500 mg OD for 10 days with right side shoulder support, then the patient is reviewed on 10th day after discharged. The patient had reduced from all the signs and symptoms with complete recovery.

III. Discussion

The sudden outbreak of Covid-19 and also spread of the 2nd wave which created health issues like cardiovascular disorders, ortho problems and multiple dysfunction of disease which needs further investigations and management of Covid-19 post recovery problems.

In this case the patient had developed orthopedic problems mainly inflammation and stiffness of the shoulder which was management in the initially stage and treated the patient's condition.

One of the retrospectively analyzed study by **Murat.S et,al,(2020)**⁷ conducted a study about the signs and symptoms about Covid -19 patients during their hospitalization and after post recovery period among 210 patients. The result reveals that merely half of patients had developed myalgia and arthralgia with headache (69.17% & 50.37%). The study concluded that most of patient had pain over joint after the post Covid recovery.

Similarly another study is consistent with the present study conducted by **Schett.G ,et al (2019)⁸** about the arthritis in covid-19 patients. The study result described that the high dose of immune suppression and corticosteroids drug which created this arthritis in the post recovery period in Covid-19.

IV. Conclusion:

From this case presentation, the authors came into the conclusion that the patients who have after by Covid-19 had great effect of getting opportunity infection during their post Covid-19 recovery. This mainly due the suppression of immunity with drugs, hormonal changes and psychological changes during the treatment progress.

Conflict of interest:

The authors declare that they have no conflict of interest related to the publication of this article

References

- [1] Sanket Shah, Debashish Danda, Chengappa Kavachandana, Saibal Das, M. B. Adarsh, Vir Singh Negi. Autoimmune And Rheumatic Musculoskeletal Diseases As A Consequence Of Sars Cov 2 Infection And Its Treatment. *Rheumatology International*. 14 July 2020. Available From: <https://doi.org/10.1007/S00296-020-04639-9>
- [2] Vanessa Damazio Teich, Sidney Klajner, Felipe Augusto Santiago De Almeida, Anna Carolina Batista Dantas, Claudia Regina Laselva, Mariana Galvani Torritesi, Tatiane Ramos Canero, Otávio Berwanger, Luiz Vicente Rizzo, Eduardo Pontes Reis, Miguel Cendoroglo Neto. Epidemiologic And Clinical Features Of Patients With Covid-19 In Brazil. *Einstein (São Paulo)*. 2020;18:1-7. Doi:10.31744/Einstein_Journal/2020ao6022
- [3] Sylwester Drożdża , Jakub Rosik, Kacper Lechowicz, Filip Machaj, Bartosz Szostak ,Paweł Majewski, Iwona Rotter And Katarzyna Kotfis . Covid-19: Pain Management In Patients With Sars-Cov-2 Infection—Molecular Mechanisms, Challenges, And Perspectives. *Brain Sci*. 2020, 10, 465; Doi:10.3390/brainsci10070465. Available From: www.mdpi.com/Journal/brainsci
- [4] Antoni Siso´ -Almirallid, Belchin Kostov, Minerva Mas-Heredia, Sergi Vilanova-Rotllan, Ethel Sequeira-Aymar, Mireia Sans-Corrales, Elisenda Sant-Arderiu,Laia Cayuelas-Redondo, Angela Martí´Nez-Pe´Rez, Noemi´ Garcí´A-Plana, August Anguita-Guimet, Jaume Benavent-Àreu. Prognostic Factors In Spanish Covid-19 Patients: A Case Series From Barcelona. *Plos One* .August 21, 2020. Available From: <https://doi.org/10.1371/Journal.Pone.0237960>.
- [5] Acromioclavicular Joint Disorders. Available From: <https://www.physiopeedia.com/acromioclavicular-joint-disorders>
- [6] Ashley Bassett And Kevin Farmer. Acromioclavicular Joint Injury.American Shoulder And Elbow Surgeons: Ortho Bullets. Updated: 9/26/2021. Available From: <https://www.orthobullets.com/shoulder-and-elbow/3047/acromioclavicular-joint-injury>
- [7] Sadiye Murat & Bilinc Dogruoz Karatekin. Clinical Presentations Of Pain In Patients With Covid-19 Infection. *Irish Journal Of Medical Science*.14 November 2020. Available From: <https://doi.org/10.1007/S11845-020-02433-X>
- [8] Georg Schett , Bernhard Manger, David Simon And Roberto Caporali. Covid-19 Revisiting Inflammatory Pathways Of Arthritis. *Nature Reviews | Rheumatology*. Available From: www.nature.com/nrrheum