Post-COVID Syndrome

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Post-Acute Sequelae of SARS-CoV-2 infection (PASC)

• Lack of consensus of definition
• Persistent symptoms 4wks or more after infection that has negatively affected function
• Multi-organ symptom presentation
• Seen in both hospitalized and non-hospitalized patients
• Also known as “Long-haul” or “Post-COVID” syndrome
Epidemiology

• Unclear if it’s related to severity of initial symptoms
• Approximately 10-30% of all patients have prolonged symptoms
• 65% return to previous level of health after 14-21 days.
• 125/134 (93%) patients had persistent sx$s$ after 2 months
  • 19-84yo (average age 40)
  • All hospitalized
  • 20% required MV
  • Women:men 4:1
Proposed mechanism of disease

• Unclear cause
• Initially thought secondary to persistent inflammation
  • Not seen in our clinic population
  • No correlation between inflammatory markers and persistence or severity of symptoms
• Persistence of autoantibodies/autoimmune process?
  • When antibodies in the immune system are attacking itself
• Persistent viral reservoir?
• Excessive histamine production?
Common symptoms

• Fatigue
• Brain fog and memory loss
• Dyspnea/respiratory sxs
• Pain syndromes
Long-term effects of COVID-19

58% Fatigue

44% Headache

27% Attention Disorder

21% Anosmia

16% Memory loss

13% Anxiety

12% Depression

11% Fever

11% Sleep disorder

8% Sleep agnea

7% Mental Health

6% PostNose bleed

3% Sinusitis

3% Oral cavity

2% Typeritis

1% UCD

1% PTSD

0.3% Paroxysm

19% Joint Pain

12% Gastrointestinal disorders

12% Occipital pain

12% Occipital headache

11% Polyphonia

11% Pulmonary failure

10% Pulmonary edema

25% Hair Loss

15% Hearing loss

16% Nausea

24% Dyspnea

19% Chest pain discomfort

3% Throat pain

5% Respiratory discomfort

23% Agranulocytosis

3% Speech

2% Vision

4% Vision

1% Osteoarthritis

3% Leg edema

1% Stroke

0.4% Arthritis

1% Diarrhea

5% Pain

2% Headache

1% Myalgia

11% Mild chest pain

11% Mild fever

30-50% Abnormal chest X-ray (34)

10-20% N5 proBNF (11)

5-15% Creatinine (10)

1-5% IL-6 (3)

80% at least one symptom

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Proposed Risk Factors

- Female gender
- Duration of hospitalization*
- ICU stay*
- Number of initial symptoms
- No clear difference between races or age groups
- No association with persistence of inflammatory markers on lab work
- Variability in research may be because of differences in study populations and whether or not patients were hospitalized for the initial infection.
  - Our clinic populations consist mostly of patients who have not been hospitalized and may be reflective of the general public’s experience

*not noted in our clinic population