

Radiological Findings of Covid-19 Infection

A review of the radiological features of the novel Corona virus infection has recently been published. In the various reports published so far it appears that initial chest CT findings are abnormal in 86% of cases. In fact, a small series of 5 suspected patients in whom the initial swab test for the virus was negative, early abnormalities on CT chest were helpful in making the diagnosis.

The characteristic features on chest radiography are bilateral, peripheral, basal predominant either patchy consolidation or ground glass appearance. A study of CT findings in 41 patients with the COVID-19 infection found that sick patients who required ICU care had patchy consolidation while the less sick patients had a ground glass appearance. Pleural effusions, cavitation, pulmonary nodules and lymphadenopathy usually imply superimposed bacterial infection. Early CT findings (0-4 days) may be normal in around 17%. In the mid-term (5-14 days), the lung lesions gradually progress. During the peak, there may be a crazy pavement pattern seen on CT chest. Clearance starts after 14 days but may not be complete even upto 26 days.

Compared to patients with SARS (Severe Acute Respiratory Syndrome) and MERS (Middle East Respiratory Syndrome), in COVID-19 infections there were more bilateral involvement of the lungs whereas it was often initially unilateral in SARS and MERS.

With the rapid spread of the COVID-19 around the world it would be prudent for all physicians to be prepared to identify this disease early.
(Am J Roentgen 19 February 2020)

Corticosteroids in Covid-19 Pneumonia

Physicians from the Chinese Thoracic Society have developed an expert consensus statement on the use of corticosteroids in the 2019 novel Corona viral pneumonia. This was developed urgently *via* online meetings and email correspondence by physicians actively involved in the treatment of the COVID-19 patients.

They have cautioned rightly that corticosteroids are a double edged weapon to be used with caution. They have laid four guidelines for its use. First the benefits and harm for every individual patient has to be carefully analyzed. Second they may be used with care in critically ill patients. The dosage should be low: less than 0.5-1 mg/kg/day of methyl prednisolone, and duration should be short*i.e.*, less than or equal to 7 days. For patients with underlying hypoxemia due to previous disease or previously on corticosteroid, further use of steroid should be cautious.

The mechanism of use is purported to be an inhibition of the overwhelming inflammation and cytokine mediated lung injury.
(The Lancet 11 February 2020)

Tackling Covid 19 With Technology

China's response to the COVID 19 epidemic is being termed "*perhaps the most ambitious, agile and aggressive disease containment effort in history.*" What is remarkable is the imaginative use of technology. A case in point is a COVID app which can inform a person if he has been in contact with a confirmed case of the infection using flight and train data. The government has a platform which allows employers to detect if any of their employees may have been in close contact with an infected person using their national identification number. Telecom operators are sharing location data to identify contacts of infected persons. In Hangzhou, citizens have been given a health QR code marked as either green (safe to travel), orange (7 days of quarantine) or red (14 days of quarantine). In Sichuan province, in remote areas and where doctors are overburdened, artificial intelligence is being used to read CT chest reports for early identification of COVID 19 infections. In some areas, to reduce risk of infections, autonomous vehicles with "contactless deliveries" are being utilized to provide food and medicines.

In this brave new world, we are sailing in uncharted territory and history is being written every day.
(The Hindu 6 March 2020)

FDA Assigns Boxed Warning To Montelukast

Montelukast was approved for use for prophylaxis in childhood asthma above 1 year, for perennial allergic rhinitis above 6 months, seasonal allergic rhinitis above 2 years and exercise induced asthma above 6 years. However, since 2009, there have been reports of neuropsychiatric adverse effects with this drug. Around 16% of children above 1 year using montelukast reportedly stopped it due to neuropsychiatric side effects. These included irritability, aggression and sleep disturbances. Onset of symptoms was early (median, 7 days) and symptoms resolved quickly on stopping (mean, 2 days).

Citizen Groups have cited major problems like suicidal ideation, tremors and depression. The FDA, after various reviews, has now added a boxed warning which advises doctors to avoid using montelukast for minor symptoms especially allergic rhinitis.
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GOURI RAO PASSI
gouripassi@gmail.com