



CT Scan Signs of Covid-19 Pneumonia

CT scan has a high specificity for diagnosing Covid-19 pneumonia especially when the radiologist is confident it is CO-RADS 4 or CO-RADS 5 disease.

The typical signs are

1. Ground glass
2. Reticular opacities
3. Consolidation
4. Bands
5. Signs of angiopathy / vasculopathy

Ground glass (Fig 1) can be central, bronchocentric, perivascular or peripheral subpleural. When associated with septal thickening (reticular opacity), a crazy-paving pattern is seen. If it surrounds an area of consolidation, it creates a ground glass halo, but if the consolidation surrounds it, then a reverse ground glass (atoll sign) is created.

Reticular opacities can occur along with ground glass or consolidation and are often seen best with resolving disease.

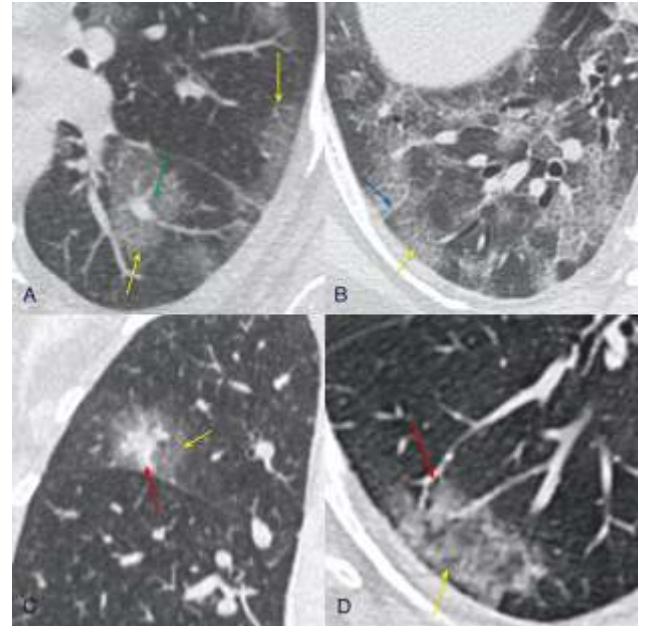


Fig. 1: Ground glass. This can be subpleural or bronchocentric, with or without prominent vessels (green arrow) (A), with reticular opacities / septal thickening (blue arrow) giving rise to the "crazy-paving pattern" (B), as a halo around foci of consolidation (red arrow) (C) or within the centre of a rim of consolidation (red arrow) (D), producing a reverse ground glass halo or "atoll" sign.

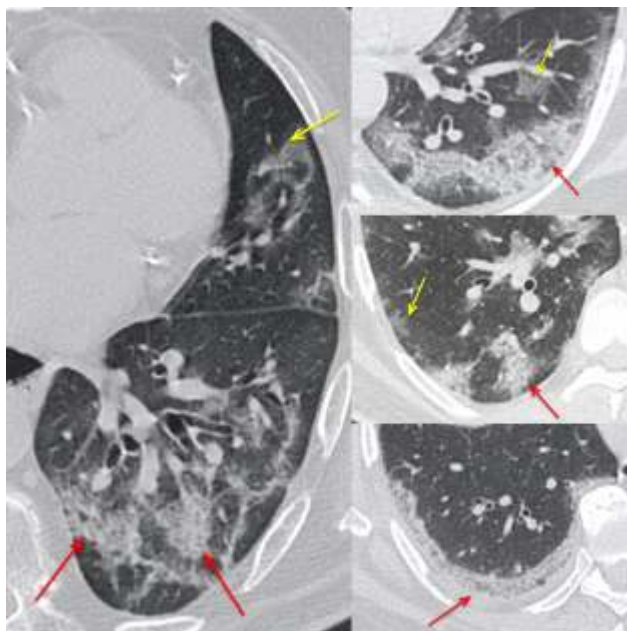


Fig. 2: Consolidation. This can also be subpleural or bronchocentric (red arrows), usually associated with ground glass (yellow arrow), which in turn either forms a halo or is at the centre of a reverse halo, or just randomly distributed together. The pattern of consolidation is typically that of an organizing pneumonia pattern.

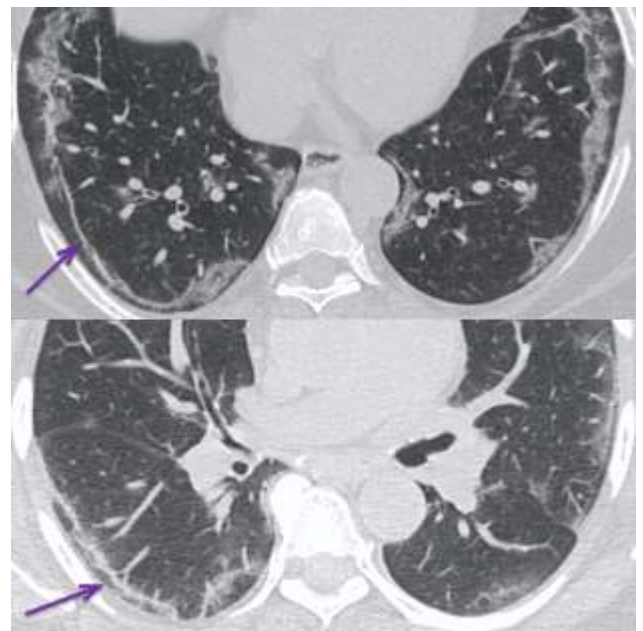


Fig. 3: Bands. Thin or thick curvilinear bands (purple arrows) usually in the lower lobes in the posterior and lateral basal segments are seen.



At a glance

- ◆ Ground glass, reticular opacities, consolidation and bands are the typical patterns of Covid-19 pneumonia
- ◆ Other conditions can also present in this manner and should not be missed or mis-diagnosed.

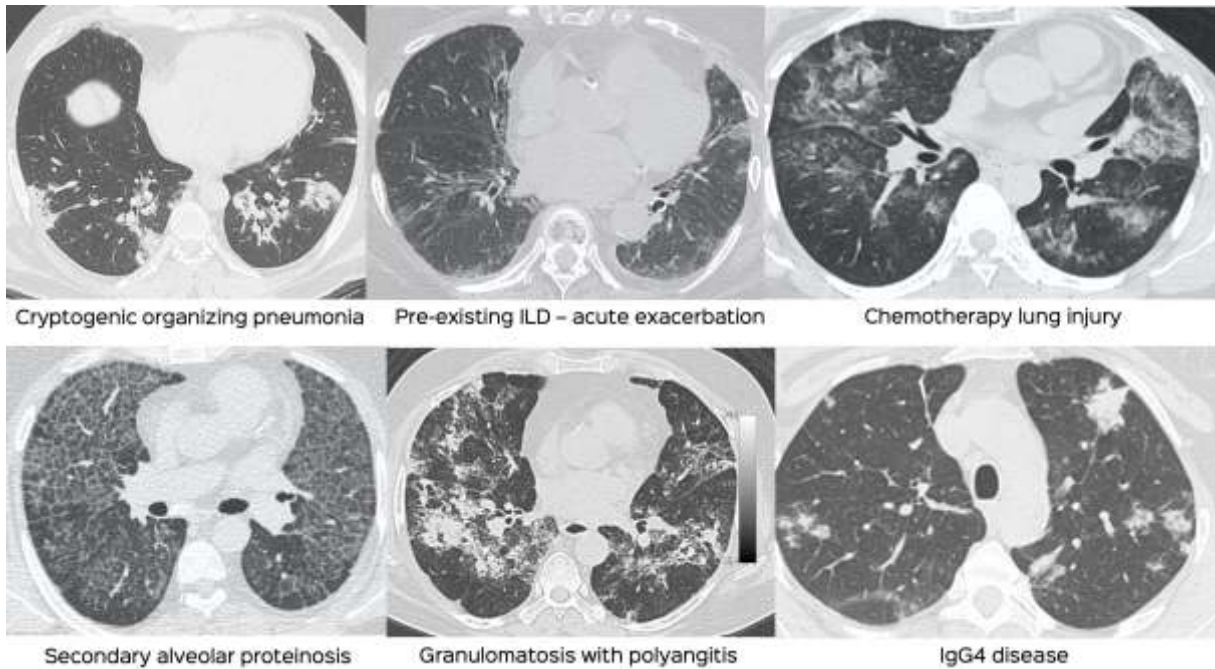


Fig. 4: Differential diagnoses of Covid-19 pneumonia.

Consolidation (Fig. 2) typically shows an organizing pneumonia pattern that may be central (peribronchovascular) or subpleural and peripheral.

Bands (Fig. 3) may be thin or thick and it is not clear whether they represent subsegmental atelectasis, resolving disease or fibrosis or a combination of all three.

Many conditions can look like Covid-19 (Fig. 4) and should not be mistaken for Covid-19 or missed in this current pandemic.

We will discuss the signs of angiopathy / vasculopathy in the next issue.

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