Case 1
A 60 year old male presented with 3 month history of low grade, intermittent fever, dry cough, loss of appetite, and significant weight loss (since 2014). He was diagnosed to have HIV infection 6 months earlier. On general examination he was found to have oral candidiasis and multiple enlarged, non-tender cervical lymph nodes. His respiratory system examination revealed right supra clavicular bronchial breath sounds. This is an image of one of his nails (similar finding was seen in all the nails in both hands).

Questions:
1. Describe the nail finding? What is this called?
2. What is the pathology behind this line?
3. What are the conditions that may present with this finding?
4. Name some other similar nail findings?

Case 2
A 39 year old male presented with history of generalized weakness for 1 1/2 years, significant weight loss of 20 kgs over 1 year and hyperpigmentation of skin. He is a known case of diabetes mellitus. These are his CT abdomen images.

Questions:
1. What are the top three differential diagnoses for the above findings?
2. How will you confirm etiological diagnosis?
3. What is the treatment for this disease?

Case 3:
A 20 year old lady with rheumatic heart disease (severe mitral stenosis, moderate mitral, aortic and tricuspid regurgitation), presented with history of sudden onset left hemiparesis associated with an left upper motor neuron type facial paresis side and slurring of speech. She had been on oral anticoagulation along with digitalis and verapamil for controlling ventricular response in atrial
Case 1

1. Symmetric, narrow white transverse bands parallel to the lunula separated by normal pink nail. It is called Muehrcke’s line. These lines typically disappear on blanching and do not move with nail growth.

2. The pathology behind this line: These are areas of hypopigmentation which are not palpable. These changes occur in the vascular nail bed following chronic hypoalbuminemic states (i.e., albumin level less than 2 g per dL) and disappear when the protein level normalizes.

3. This finding may be seen in patients with chronic hypoalbuminemic states like nephrotic syndrome, chronic liver disease, and chronic malnutrition. This patient’s chest x-ray showed miliary mottling with right upper zone consolidation. Tuberculosis was confirmed by Xpert TB PCR and culture from his lymph nodes. At the time of admission his CD4 count was 64 cells/µL. Liver function tests showed an albumin of 1.5 and total protein of 4.2. He was initiated on weight based ATT.

4. Other similar nail signs: Beau’s lines and Mees’ lines. How does one clinically differentiate between these lines? Beau’s lines are deep grooves and have actual ridges and indentations in nail plate which make them palpable. Mees’ lines, unlike Muehrcke’s lines do not disappear on blanching. As Mees’ lines represent changes in the nail plate they move with the growth of the nail whereas Muehrcke’s lines do not move with nail growth.

References:

Case 2

CME IN IMAGES

Other rarer differentials are non Hodgkin’s lymphoma, Amyloidosis, Neoplasias such as bilateral pheochromocytoma and adrenocortical carcinoma.

2. Imaging wise, presence of calcification in the mass would point to infective etiology such as tuberculosis or Histoplasmosis. In India, where tuberculosis is still rampant, the first imaging differential diagnosis with the given history would be disseminated tuberculosis; however differentials diagnoses such as disseminated histoplasmosis needs to be considered. Definite diagnosis can be attained by CT guided fine needle aspiration.

In this case, fine needle aspirate cytology showed periodic acid Schiff positive rounded structures consistent with Histoplasmosis. The final diagnosis is disseminated histoplasmosis.

Hematogenous dissemination occurs in most patients during the acute infection before cellular immunity develops. Disseminated disease occurs in approximately 1 in 2000 patients with acute infection. Most patients who develop disseminated histoplasmosis are immunosuppressed ( eg. AIDS, solid organ transplantation, treatment with tumor necrosis factor – alpha inhibitors) or are at the extremes of age. In addition, chronic progressive disseminated histoplasmosis occurs rarely in older adults with no known immunosuppressing conditions. This patient had diabetes mellitus.

3. The treatment for disseminated histoplasmosis includes Antifungal agents (Amphotericin B, atraconozole, Fluconozole) and corticosteroids for hypocortisolism

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Case 3

1. Rate: Ventricular rate 80-120 beats per minute, Rhythm: Irregularly irregular with absent P waves, varying RR intervals, QRST morphology: ST segment depression with downward sloping pattern, flattened or inverted T wave, left ventricular hypertrophy by voltage.

2. This ECG sign is called as the “Reverse tick” sign or “Reversed check mark” sign\(^1\). (See image on right) The ST depression is asymmetric and down sloping and has a characteristic sagging, coved, or scooped appearance.

3. Does this sign indicate digitalis toxicity? When should one suspect digitalis toxicity?

This finding is the typical “digitalis effect” on ECG and is not an necessarily an indicator of digitalis toxicity.\(^{1,2}\) If this ECG finding is present and if the patient also has clinical features of toxicity, then one must consider the diagnosis of digitalis toxicity. The clinical features of digitalis toxicity can be divided into non-cardiac and cardiac. Non cardiac complaints would include nausea, vomiting, vision changes, seeing green or yellow. Nonspecific gastrointestinal symptoms can also be seen in more than 30% of patients.\(^4\) Cardiac complaints can include palpitations and chest pain. Once suspected, an ECG is done in order to confirm the same. Serum digitalis levels can be measured 6 hours after the last intake of the drug, if available.\(^4\)

Risk factors for digitalis toxicity: Older age [>70 years], female sex, low lean body mass, chronic renal failure and hypokalemia.\(^3,4\) This patient had a lean body mass but her serum potassium was 3.7 mmol/L and her serum creatinine was 0.7 mg%.

4. What is the appropriate line of management? In case of the presence of significant T wave inversions or arrhythmias, digitalis has to be stopped. Serum potassium and creatinine has to be measured and corrected as necessary. In the absence of refractory, life threatening arrhythmias, severe hyperkalemia and/or haemodynamic instability, the use of digoxin antibody Fab fragments have no role.\(^4\) In our patient, digitalis was withheld in view of the presence of risk factors and baseline neurological deficits. Her management was optimised with anticoagulation and ventricular rate control with calcium channel blockers.

References:


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