Older Woman With Malignant Pleural Effusion

What's Your Diagnosis [1] | September 03, 2009
A woman in her 70s who underwent mastectomy of the left breast for cancer some time ago.

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HISTORY

A woman in her 70s who underwent mastectomy of the left breast for cancer some time ago. Now has lung and liver metastases unresponsive to 3 courses of paclitaxel chemotherapy. Admitted to hospital for worsening dyspnea caused by progressive right-sided malignant pleural effusion.

PHYSICAL EXAMINATION

Gracious woman in complete command of her faculties, although tired and dyspneic. Hands as shown. No visible or palpable local recurrence of her breast cancer on the chest wall. No lymphadenopathy. Dull percussion note over entire right hemithorax; absent breath sounds there. Marked hepatomegaly.

What's Your Diagnosis?
(answer on next page)

WHAT'S YOUR DIAGNOSIS?

ANSWER: NAILS WITH MULTIPLE ABNORMALITIES

The nails show several striking deviations from normal. First, the color darkens and becomes browner abruptly in the distal quarter of the nail—and not from any extrinsic discoloration or dirt: the same pattern occurred on all nails on both the dominant hand and the nondominant. Any line of demarcation between the zones is obscured by 2 or 3 broad transverse white lines that interrupt the more normal pink of the proximal nail. The lunula is absent or inconspicuous, but this can be normal. The brown is an exaggerated onychodermal band that, depending on length, can be called Terry nails or, as here, half and half nails.

CLUBBING
Yet a third abnormality is seen: finger clubbing (Figure 1). Since the pleuropulmonary metastases were recognized some time earlier, and were by now clinically dreadfully symptomatic, this sign did not change assessment. The front-view photo shows no clue of this additional abnormality, inasmuch as clubbing is discerned from the side.

Clubbing is not specific for chest disease, although best known in lung cancer; we have discussed it in an earlier column, and there is a best classic paper on the subject, so we shall move to the other changes.

**TRANSVERSE LINES ON THE FINGERNAILS**
The transverse white stripes on these nails are Mees or Aldrich lines. They record the metabolic stress of each course of paclitaxel. Although originally described in arsenic poisoning, this sign is anything but specific; any stress to the host that interferes with nail plate formation can cause Mees lines, and they have been reported after many chemotherapy agents, quite understandably in that interference with various rapid-turnover cell lines is a hallmark of almost all such agents in use today. The palpable counterpart to the visible Mees lines is Beau lines. A major differential diagnosis for white transverse lines in the fingernails, Muehrcke lines of hypoalbuminemia, was excluded by the finding of a serum albumin level that was mildly rather than profoundly depressed (though at least one eminent authority would disagree with this inference), by the presence of 3 rather than 2 lines, and by distal movement with nail growth—something that happens with Mees lines, which reflect change in the hard nail plate, but not with Muehrcke lines, which reflect change in the subungual skin constituting the nail bed.

**HALF AND HALF NAILS (LINDSAY NAILS), TERRY NAILS**
The half and half nail is supposed to consist of brownish discoloration in the distal part of the nail plate, ideally with pale ground-glass opacity of the proximal nail. Discoloration of the entire proximal nail is not recognizable in our patient, in part but not altogether because of the competing and confusing multiple pathologies, and is subtle in another case offered for comparison (Figure 2).
Terry nails represent a lesser form of darkening of the distal nail. In these the band or arc of brown at the far edge measures just a few millimeters in extent, whereas in half and half nails—also known as Lindsay nails⁴—the band occupies from one-fifth to three-fifths of the length of the nail. In both of these entities, the demarcation between brown and pale areas is sharp and runs straight across the whole width of each nail. Some authors would disagree, but others, myself included, consider the two as merely degrees of morphological expression of a single phenomenon: disorder of the onychodermal band, that narrow darker-pink zone you can see just proximal to where the nail comes free of the pulp.¹ Both could be considered variants³,⁴ of the brown arcs described in renal failure.¹⁴

WHAT DO THEY SIGNIFY?
An immense literature includes descriptions of both these variations in a host of diseases, including diabetes mellitus, cirrhosis, and renal dysfunction.²,⁶,⁷,¹⁴ There is no correlation with any specific level of azotemia, and contemporary authors do not share the belief of earlier writers⁵ that the half and half nail is a specific uremic onychopathy. Several large studies of nail changes in patients with end-stage renal failure with or without hemodialysis reveal multiple abnormalities, the half and half always making the list but not always being common.¹⁵-¹⁸ The quality of these studies varies, making it hard to aggregate their data or form a conclusion based on the combined cases reported. Just as with clubbing, the list of conditions reputed to cause half and half nails keeps getting longer, and sometimes feels as though the newest additions just amount to the precept, “Anything can happen to anybody”: Behet disease,¹⁹ Crohn disease,²⁰ pellagra,²¹ and for Terry nails aging²² and more recently Reiter syndrome.²³

Neither Terry nails nor half and half nails should be confused with fecal staining from defective personal hygiene, a problem that is usually obvious from context, odor, and ease of removing the color with an alcohol wipe, or solids with a tissue or a broken tongue-blade. Nor are they to be misconstrued as nicotine staining, which characteristically affects only the dominant hand. Half and half nails ought not prompt any accusations of unreported tobacco use! In one striking case, nicotine staining persisted distally while the proximal half of the nail grew out clean after the host discontinued smoking, leading to the epithet “quitter’s nail,”²⁴ or “harlequin nail” based on visual resemblance.²⁵

PALMAR ERYTHEMA
This patient, an astute self-observer, was sure that the margin of her palm had turned red only in the last few months. The time span corresponded to the duration of clinical liver metastases. Unlike the red palms we experience after sitting on our hands, true palmar erythema shows spottiness within the red zone and central palmar sparing (Figure 3). Although palmar erythema is common in healthy persons and especially in pregnant women, so that it lacks any predictive value for chronic liver disease, in this individual its development clearly mirrored hepatic involvement by metastatic breast cancer.
A TRIBUTE
We were unable to aid this woman except by our demeanor and by wise choice of supportive and palliative measures. Tube thoracostomy failed because the bulk of opacification of the hemithorax proved to be solid metastatic growth. She figured out all the implications of our recommendation against pleurodesis, and remained eminently gracious in her dealings with the medical team as well as with other persons. She welcomed being photographed in the hope of helping some future patient. This column is presented in that spirit.


References:
REFERENCES:


**Links:**
[1] [http://www.physicianspractice.com/whats-your-diagnosis](http://www.physicianspractice.com/whats-your-diagnosis)