

problems,³ hyperlipidemia,⁴ and strabismus.³

While painting a study of the great master as a learning exercise, several elements of the composition led me to consider other possibilities for the differential diagnosis.

Bruno Mottin, the curator of the Center for Research and Restoration of Museums of France, and a Canadian team imaged the painting using a new 3-dimensional technology. They noted that the initial da Vinci painting had the left hand “in a clenched rather than relaxed position.” This was later changed to a looser grasp “as if she was going to get up from a chair.”⁵ The first iteration would most likely reflect the reality of the moment more accurately.

I submit that the position of the left arm and hand is more in keeping with paresis, which could be recent or from earlier in her life. The position of the right hand is one of support and is resting after positioning the left side. The flexion of the left hand is consistent with a neurological insult.

A basilar artery event would tie in hemiparesis of the left arm as well as the intriguing eye and smile effects. A brainstem lesion in the area of the pons could affect the motor nucleus of cranial nerve VII and the cranial nerve V nucleus as well as affect a large bundle of motor tracts. This would encompass the enigmatic gaze, the muscles for mysterious smiling and emotion, and paresis and support of the arm and hand.⁶

Brainstem artery occlusions are a subset of the posterior circulatory vascular events accounting for 1% to 4% of these strokes. Emboli, intrinsic basal artery atherosclerosis, and

penetrating small artery diseases are the common causes of this event. Embolic causes are more common in younger individuals.⁷ Much rarer etiologies are vasculitis, trauma, and infectious processes including neurosyphilis.⁷⁻¹³

I also submit that the position of the lesion of the right wrist is more in keeping with a ganglion cyst than a lipoma.

The authors have written a wonderful review. Although hypothyroidism may very well be a part of the Mona Lisa story, there may be additional factors to consider in the differential diagnosis.

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Potential Competing Interests: The author reports no competing interests.

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<https://doi.org/10.1016/j.mayocp.2019.01.010>

In reply—The Mona Lisa
Decrypted: Another
Premise



The intrigue of the Mona Lisa continues to inspire as Dr Mullany provides yet another explanation for the enigmatic picture. Given the vast number of differential diagnoses already proposed previously and enumerated in our review,¹ this new assertion that a neurological injury or central nervous system malady defines the observed posture does deserve some discussion. Whether you examine the main painting or the deciphered one as interpreted by Bruno Mottin a decade ago,² the positions of the hands do not clearly advise in favor of a clear neurological insult. The painting was assuredly done with multiple sittings and not a single one and thus it is understandable that Leonardo da Vinci captured multiple phases and ended with what he thought was the most relaxed posture. The position of the right hand is consistent with a relaxed posture and even one that denotes some degree of flaccidity as would be encountered with hypothyroidism. To postulate a diagnosis of a neurovascular insult is beyond the depictions visually apparent and would likely be a bit of a stretch based on observed findings, although it

certainly is thought provoking. I would draw attention to an aphorism in medicine, attributed to Dr Theodore Woodward at the University of Maryland School of Medicine, who instructed his medical interns: “When you hear hoofbeats, think of horses not zebras.”³

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Potential Competing Interests: The author reports no competing interests.

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<https://doi.org/10.1016/j.mayocp.2019.01.011>