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In Reply

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We thank Drs Colletti and Dessy for their letter and the citations of their documented excellence in vascular malformations.

Although congenital hemangiomas (GLUT1 negative) and infantile hemangiomas (GLUT1 positive) are tumors of infancy, several other forms of hemangioma are recognized as occurring across a spectrum of young to middle-age adults. Examples include the epithelioid hemangioma, spindle cell hemangioma, hobnail hemangioma, glomeruloid hemangioma, and the acquired tufted angioma of Nakagawa. Each of these benign tumors expresses unique clinical and histopathologic characteristics.1

As concurred by Drs Colletti and Dessy, we discussed the 2014 classification of vascular anomalies by the International Society for the Study of Vascular Anomalies (ISSVA) and its limitation to lesions of soft tissue and lack of standardization of primary bone lesions.2 In addition, we drew attention to a previous study of vascular lesions of bone that had recommended that the ISSVA classification also be applied to primary bone lesions.2, 3 This study restricted lesions to patients younger than 25 years.3

Our report is of a single, solitary intrabony mass in the frontal bone in a 39-year-old woman that we chose to interpret as an intraosseous hemangioma.2 The parameters for the diagnosis were drawn from the 2013 World Health Organization's classification of tumors of soft tissue and bone4 and *Dorfman and Czerniak's Bone Tumors,*5 an acknowledged textbook of excellence on the topic of bone tumors.

Drs Colletti and Dessy's description of a tumor is correct but not absolute. To wit, would an osteoma (ie, a benign “tumor” of bone) be excluded?

The sentence, “cytologic atypia, cell crowding, mitotic activity and giant cells were not present” alludes to the benign histopathological nature of our lesion. Tumors are recognized as “benign” based in part on the aforementioned histopathologic features. Low-grade malignant tumors also can deceptively lack some of these features. Lack of these features does not singularly qualify a tumor as a malformation.

We recognize the dichotomy in addressing the nomenclature of solitary intraosseous vascular anomalies that are diagnosed as hemangiomas in the practice of pathology versus vascular malformations. We draw attention to an excellent article on this topic of interdisciplinary differences in diagnostic nomenclature.6 However, we also draw attention to those cases of the spine, lower extremities, ribs, and facial skeleton with a peak incidence at 30 to 60 years of age that are diagnosed as hemangiomas.5

We hope the ISSVA will provide clarification and guidelines in their next classification.

# References

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4 C.D.M. Fletcher, J.A. Bridge, P.W. Hogendoorn, *et al.* (Eds.), WHO classification of tumours of soft tissue and bone, IARC, Lyon, France (2013)

5 B. Czerniak. **Dorfman and Czerniak's bone tumors.** (ed 2), Elsevier, Philadelphia, PA (2016)

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