

Imaging diagnosis

Case 393

5. Venous hemangioma (cavernous hemangioma)

【Progress】

Multiple venous hemangiomas were depicted on MRI. First, she received sclerotherapy for a venous hemangioma at left chin with mixed emulsion of ethanol 2mL and lipiodol 0.5mL. Other hemangiomas are scheduled to be treated one of each.

【Discussion】

This is the second case of venous hemangioma or cavernous hemangioma of the tongue, following Case 236. The present case has multiple cavernous (venous) hemangioma at tongue, left lip, left buccal membrane and left chin. Only cavernous (venous) hemangioma of left chin was treated with ethanol-lipiodol emulsion. The reason why the case with hemangioma at tongue was again addressed is that although the term of cavernous hemangioma that is often used in the liver, the term of cavernous hemangioma is rarely used in soft tissues. Instead, the term of venous hemangioma is often used in soft tissue hemangioma. Hence, it gives a misunderstanding of cavernous hemangioma being different from venous hemangioma. In fact, cavernous hemangioma is pathologically identical to venous hemangioma (1, 2).

For treatment of cavernous (venous) hemangioma at face, lips and tongue, sclerotherapy using mixture of ethanol and lipiodol is often served for its shrinkage. After safety confirmation of blood flow stagnation using lipiodol alone injection, ethanol and lipiodol emulsion is infused via needle punctures to venous hemangioma under fluoroscopic control, taking care of regurgitation of the emulsion to intact tissue. To avoid excessive ethanol injection, implying to avoid damage to intact tissue, repeated sclerotherapy with small volume of ethanol-lipiodol emulsion is recommended.

Capillary hemangioma is composed of a network of fine vessels. The common treatment is surgical resection or Laser irradiation. However, surgical resection is sometimes difficult for sensitive organ such eye, lips and tongue. Laser irradiation is not applicable for thick and mass-like lesion. Repeated sclerotherapy is applicable for its shrinkage (1, Case 236).

The imaging of hemangioma on MRI is crucial for identification, expansion of the lesion, discrimination of benign from malignancy. Fat suppression T2WI is useful for identification and expansion, while Diffusion WI and ADC maps are useful to differentiate benign from malignancy. The signal intensity pattern of T1WI and fat suppression T2WI is useful for the differentiation. For example, both low grade (high differentiated) epidermoid carcinoma and cavernous hemangioma are depicted high signal intensity on Diffusion WI and relatively high ADC values, indicative of difficult discrimination. Meanwhile, the signal intensity pattern of T1WI and T2WI is high and low, respectively in low grade epidermoid carcinoma (Case 391), while the signal intensity pattern of T1WI and T2WI is high and low, respectively in cavernous hemangioma, indicative of being enabled to differentiate them.

【Summary】

We presented a forty-two-year-old female presented in our hospital for multiple cavernous hemangiomas at left chin, left buccal membrane, tongue, expecting to receive sclerotherapy with mixed emulsion of ethanol and lipiodol. It is borne in mind that the term of venous hemangioma is identical to the term of cavernous hemangioma. Imaging patterns of signal intensity on T1WI, T2WI, Diffusion WI and ADC values are useful to differentiate among venous hemangioma, low grade epidermoid carcinoma and other malignant carcinoma.

【References】

1. Kawai N, Sato M. Wisdom of IVR 2nd edition 2018 Kinpodo 15-172, vessel malformation
2. Sato M, et al. Radiation therapy for a massive arteriovenous malformation of the pancreas. AJR 2003; 181:1627-1628.

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