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CASE REPORT

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Acquired arteriovenous hemangioma on the nose of a middle-aged man: A case report

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Key Clinical Message

Arteriovenous hemangioma is a rare, benign vascular lesion that presents with an asymptomatic red or violaceous papule which is frequently asymptomatic but pruritus, pain and enlargement may be seen in some patients. In histology it is composed of thick-walled and thin-walled blood vessels distributed in superficial and mid dermis. The treatment of choice in such cases is complete excision and recurrence is rare. In this article we describe an acquired form of arteriovenous hemangioma on the nose of a middle-aged man.

KEYWORDS

arteriovenous, benign, hemangioma, vascular

1 | INTRODUCTION

Hemangioma is a benign tumor of infancy and childhood which usually appear in 4 weeks after birth. It grows rapidly in the first months of life and in 90% of the cases, it regresses by the age of nine.[1] Enzinger and Weiss, classified hemangiomas into capillary, cavernous, and miscellaneous forms like verrucous, venous and, arteriovenous hemangiomas. Arteriovenous hemangioma was first reported by Biberstein and Jessner but later, Enzinger and Weiss divided it into superficial and deep.[2,3] Superficial arteriovenous hemangiomas most commonly develop in the head and neck region, including the lips, the oral cavity, the perioral skin, the nasal cavity, and the eyelids.[4,5] Deep arteriovenous hemangioma can occur so close to skin and is regarded as a malformation. It is usually seen in young individuals.[6]

Arteriovenous hemangioma is a benign vascular lesion which can be either congenital or acquired. Although the etiology is unknown, trauma, inflammation, and chronic irritation may be its predisposing factors.[2,4] Clinically it is a red or violaceous papule which is frequently asymptomatic but pruritus, pain and enlargement may be seen in some patients.[2] It mostly occurs in the fourth and fifth decade of life with no sex predilection.[2,6] In histology it is composed of thick-walled and thin-walled blood vessels distributed in superficial and mid dermis.[6]

In this article we describe an acquired form of arteriovenous hemangioma on the nose of a middle-aged man.

2 | CASE PRESENTATION

A 53-year-old man referred to the Dermatology Clinic with a skin colored, 1 × 1.3 cm nodular lesion on the left side of his nose that had been present for 15 years (Figure 1). The lesion was soft, non-mobile, non-pulsatile, and not tender on palpation with normal temperature. Mild erythema was seen on some parts of the lesion. The general physical exam was normal and no palpable neck lymph nodes

were detected. In addition, lab data was requested and no abnormality was seen.

3 | DIFFERENTIAL DIAGNOSIS, INVESTIGATIONS AND TREATMENT

The differential diagnosis was hemangioma, granuloma faciale, sarcoidosis and, cylindroma. Histopathological examination revealed vascular proliferation with multiple vessels composed of venous and arterial wall endothelial cells consistent with an arteriovenous hemangioma (Figure 2). In addition, sonography was done for the whole lesion and it was also in favor of hemangioma.

4 | OUTCOMES AND FOLLOW-UP

Due to the site and the large size of the lesion, the patient was referred to plastic surgeon for complete excision. The lesion was completely excised with no recurrence after 6 months. It should be declared that the whole nodular lesion excised was sent for histopathological evaluation and the histologic evaluation revealed thick-walled and thin-walled vessels in superficial and mid dermis (Figure 3), and the diagnosis of arteriovenous hemangioma was confirmed. Due to the histopathology reported for the whole lesion, we assure that the diagnosis of the arteriovenous hemangioma is for the whole nodular lesion and it was not the coincidence of hemangioma with other diseases.

5 | DISCUSSION

Till now, few cases of arteriovenous hemangioma have been reported. A giant arteriovenous hemangioma on the nose of a 97-year-old woman was reported in 1989 that was treated with argon laser with no recurrence after 1 year.[5] Kim et al reported a case of arteriovenous hemangioma on the ear lobe in the year 2015.[4] In 2015, Lestari et al reported a rare case of arteriovenous hemangioma mimicking pigmented nevus. It was the first case of arteriovenous hemangioma with this clinical picture.[2] Akiyama et al reported four cases of arteriovenous hemangioma in patients with chronic liver disease and suggested the possible association of chronic liver dysfunction with the occurrence of arteriovenous hemangioma.[7]

The case presented in this article is a 53-year-old man who presented with a skin colored, 1×1.3 cm nodular lesion on his nose for 15 years. General physical exam and lab data were normal. Unlike the article published by Akiyama et al that suggested the possible association of chronic liver dysfunction with the occurrence of

FIGURE 1 1×1.3 cm skin colored nodular lesion on nose, the site of biopsy is evident in the picture.

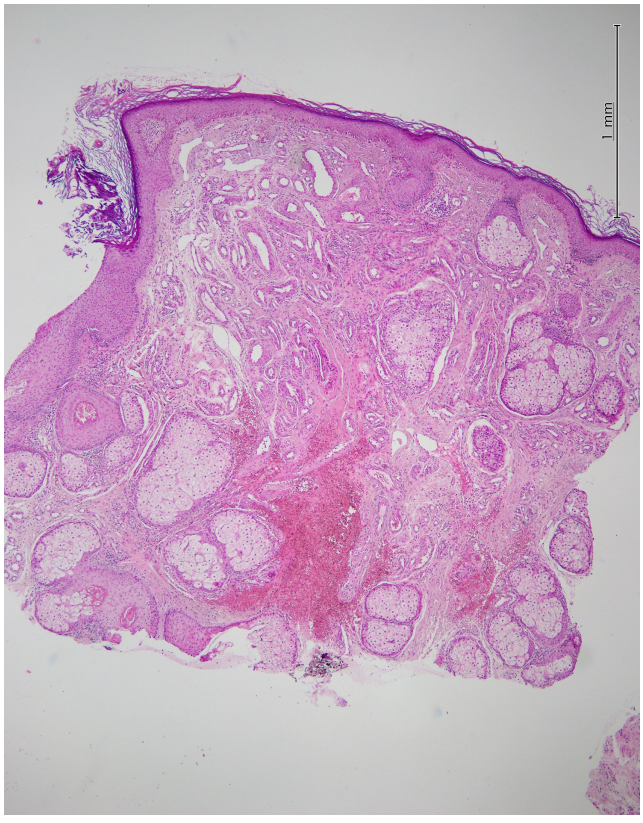

FIGURE 2 Vascular proliferation composed of thick-walled and thin-walled vessels (×10 magnification).

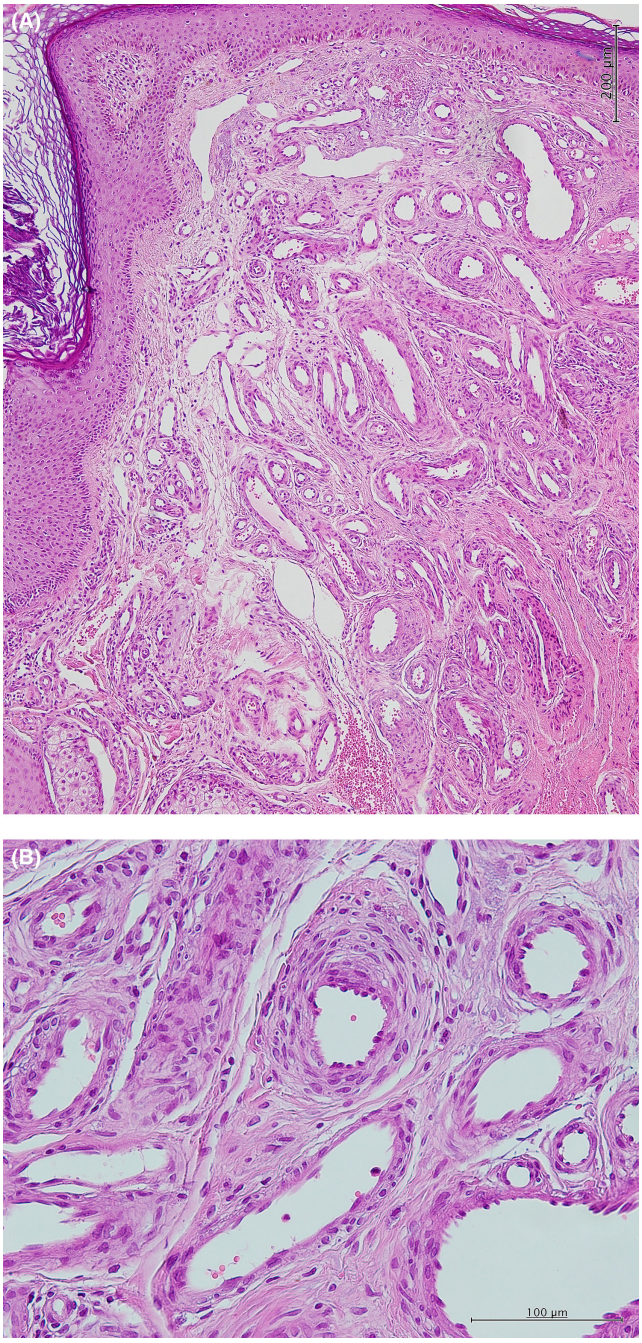

FIGURE 3 (A) Multiple vessels composed of veins (thin-walled vessels) and arteries (thick-walled vessels). (B) Multiple vessels composed of thick-walled and thin-walled vessels (×40 magnification).

arteriovenous hemangioma, our patient was healthy with no systemic diseases.

In histology, arteriovenous hemangioma is composed of thin- walled and thick-walled vessels and the vessels mostly have features of veins than arteries. The histopathological examination of our case revealed vascular proliferation composed of veins and arteries, compatible with the diagnosis of arteriovenous hemangioma.

The treatment of choice in such cases is complete excision and recurrence is rare.[4] The lesion of our case was completely excised with no recurrence after 6 months.

It should be noted that arteriovenous hemangioma usually presents with a red or violaceous papule, but the clinical presentation of our case was not typical and presented with a skin colored nodular lesion with mild erythema.

Due to the rarity of arteriovenous hemangioma and the clinical picture that is not typical for arteriovenous hemangioma, this case is interesting to report.

AUTHOR CONTRIBUTIONS

Negin Fazelzadeh Haghighi: Data curation; investigation; project administration; supervision; writing – original draft; writing – review and editing. **Maryam Hekmat:** Data curation; investigation; writing – original draft; writing – review and editing. **Babak Shirazi Yeganeh:** Data curation; investigation; writing – original draft; writing – review and editing.

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We are truly thankful toward the patient for permitting us to use and publish his picture.

FUNDING INFORMATION

Not applicable.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

All data are available in the main text.

ETHICS STATEMENT

The study was approved by the Ethics committee of Shiraz University of Medical Sciences (IR.SUMS.REC.1402.197).

CONSENT

The study was approved by the Ethics committee of Shiraz University of Medical Sciences (IR.SUMS.REC.1402.197). Written informed consent was received from the patient.

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