



## Hemangioma with Basophilic Bodies- A Diagnostic Challenge

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### Abstract

The main location of hemangiomas is the head and neck, followed by the trunk and limbs. We present an unusual case of hemangioma with basophilic bodies, which created a diagnostic dilemma. This case had a scalp swelling which was excised and sent for histological examination. It turned out to be a hemangioma on microscopy, however, showed some basophilic structures on the surface of the lesion which were difficult to decode. This case gives us a lesson that only turning pages of a book doesn't suffice, knowing a detailed clinical history followed by analysis of the same helps in final conclusive diagnosis.

**Keywords:** Hemangioma, basophilic bodies, diagnostic dilemma, conclusive diagnosis

### Introduction

Hemangiomas affect mainly patients in the paediatric population with incidence reaching 12.6% by the end of first year of life. The main location of these (benign) vascular tumours is the head and neck (60% of cases), followed by the trunk (25%) and limbs (15%).

In histology, hemangiomas can be classified as cavernous or capillary. [1] Here we present an unusual case of hemangioma with basophilic bodies, which created a diagnostic dilemma. This case highlights unusual features which are peculiar to local practices of treatment. The histologic features bring about dilemmas in diagnosis and one should be aware of such practices.

### Case Report

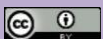
A 33 year male, presented with non-tender swelling on right side of scalp since six months. The swelling was constant in size. On examination, the swelling measured 0.8 x 0.8 cms, was soft, cystic and superficial. The swelling was excised. We received three skin covered brownish soft to spongy tissue bits, aggregating to 0.7 x 0.6 x 0.4 cms.

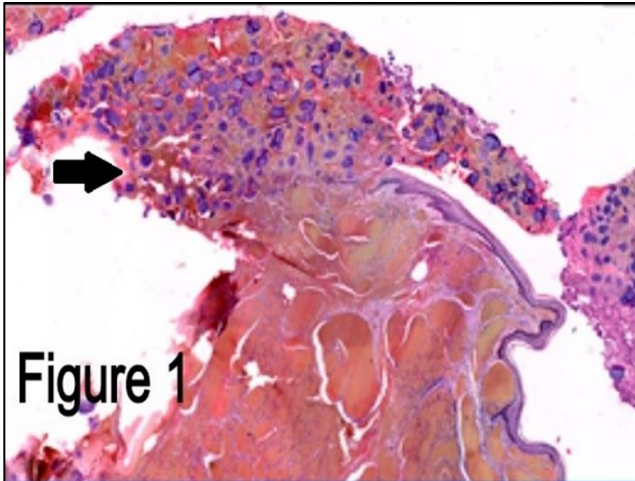
Microscopy [Figure 1, 2] revealed ectatic vessels lined by endothelial cells and separated by fibrous septae, in the dermis. Overlying epidermis was ulcerated by this vascular lesion. Along the line of ulceration there were many basophilic bodies showing internal infoldings and some form of complexity [Figure 1, 3]. Though the histologic impression was that of cavernous hemangioma, the basophilic bodies were eye catching. Extensive study and

research of literature did not reveal any clue as to the nature of these structures. The surgeon confirmed the history and additionally mentioned that there were no other significant co morbidities or previous surgical intervention. Possibilities of parasite (animate object), calcium particles, suture material, any ointment application by patient (as the bodies were confined to superficial ulcerated epidermis) vegetable matter/ any other inanimate object were all considered and excluded. Finally, on directly talking to the patient about any local applications he mentioned that eight days before operation he did apply turmeric to that site, as the lesion had started bleeding. To confirm whether this could be remnants of turmeric we processed turmeric in our laboratory [Figure 4] and the section exactly resembled the basophilic bodies as seen in our case on histology.

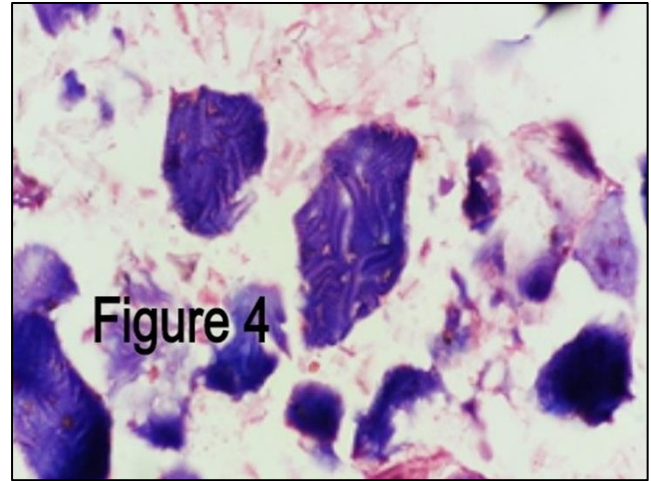
### Discussion

Turmeric is a rhizomatous herb that belongs to the family *Zingiberaceae* and the major species is genus *C. longa*. It is a medicinal plant extensively used in Ayurveda, Unani and Siddha medicine and as a home remedy. Curcumin (Diferuloylmethane), the main yellow bioactive component of turmeric has been shown to have a wide spectrum of biological actions - anti-inflammatory, antioxidant, anticarcinogenic, antimutagenic, anticoagulant, antidiabetic, antibacterial, antifungal, antiprotozoal, antiviral, antifibrotic, antivenom, antiulcer, hypotensive and hypocholesteremic activities. [2]

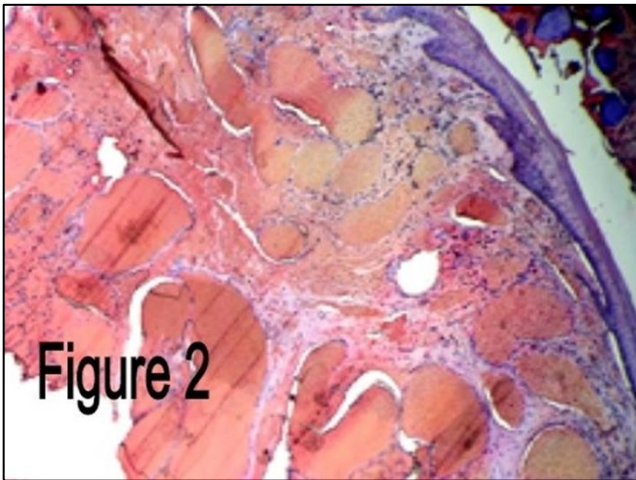




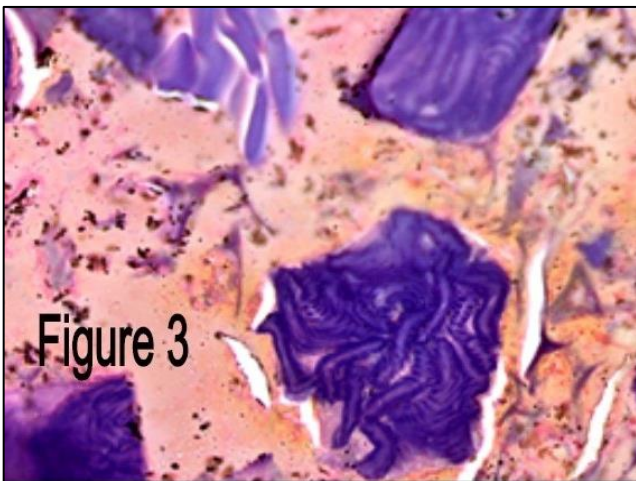
**Figure 1:** Cavernous hemangioma in dermis with basophilic bodies (arrow) along ulcerated epidermal surface amidst blood clot (HE x40).



**Figure 4:** Basophilic body. Section prepared from turmeric powder in the laboratory (HE x400).



**Figure 2:** Cavernous hemangioma (HE x100).



**Figure 3:** Basophilic bodies from the case (HE x400).

Bouzabata Amel analysed microscopic features of turmeric. The most diagnostic features are yellow clumps of gelatinized starch, covering trichome, starch granules, vessels, cork and fibres. The results showed that microscopic observation of rhizome *Curcumae longae* powder could be grouped according to the presence of non-glandular trichome, and calcium oxalate crystals clusters.<sup>[3]</sup> In this study, the turmeric powder was mounted with lactic acid. However, in our study, as the tissue was for histologic diagnosis of lesion, it was processed with histotechnique method and thus turmeric lost its original structure.

However, no studies were found on processed hematoxylin and eosin-stained histologic section of turmeric, which would describe the visible structures, as was seen in our basophilic bodies.

Turmeric as a histologic artefact is never described in any report. The other artefacts described are tattoo pigment artefact, artefacts due to surface preparation (tincture iodine, indian ink, silver nitrate, alcian blue and alcian green), mechanical, chemical, thermal cause, fulguration artefacts, suture artefact, starch powder, foreign body contamination, candida spores, fixation artefacts, artefacts due to microwave fixation, ice crystal artefacts, artefacts due to prolonged fixation, dust particles.<sup>[4]</sup>

Thus, it can be said that due to its medicinal property, many patients apply turmeric on wounds/ bleeding site as was seen in our case. But its presence in histology section can lead to confusion and has never been discussed previously, to the best of our knowledge.

## Conclusion

History taking and awareness of local customs and practices is the most essential tool in diagnosis of many cases. It is important to be aware of artifacts related to local practices as it can solve many diagnostic challenges.

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## Reference

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