

## Hemangiopericytoma of the Stomach

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### Abstract

**Introduction:** Hemangiopericytoma is a tumour derived from pericytes. It is a rare and highly vascular tumour. It commonly arises in lower extremities. **Materials and Methods:** A 53 year old male presented with complaints of recurrent melaena. OGD showed a 3x3x2 cm (approx) growth in the distal stomach, which bled on touch. Partial gastrectomy was done. **Result:** Hematoxylin & eosin stain of sections showed thin walled ramifying blood vessels, anatomizing blood vessels with typical stag-horn pattern. IHC panel: Cytokeratin: Negative, SMA: Negative, Desmin: Negative, CD 34: Focally Positive, Vimentin: Strongly positive **Conclusion:** Hemangiopericytoma of the stomach is very rare. Only 30 cases have been reported in the world literature. The diagnosis is mainly by histomorphology. IHC confirms the diagnosis.

**Keywords:** Hemangiopericytoma; Stomach; Immunohistochemistry.

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### Introduction

Hemangiopericytoma is a tumour derived from pericytes. Initially described by Stout and Murray in 1942, it is a rare and highly vascular tumour.

It commonly arises in lower extremities. But can also occur in retroperitoneum, head, neck and chest

### Case Report

A 53 year old male presented with complaints of recurrent melaena of 5 months duration.

History of weight loss and loss of appetite was present, but no history of hemataemesis or abdominal pain. The patient was treated conservatively with partial relief.

### Clinical Examination

Physical examination revealed: Pallor 3+, Pedal Oedema: 1+ Per abdominal examination showed Tenderness to be absent and no palpable lesion were felt.

Preliminary examination report of Hb: 4.2gm % and Stool for Occult blood was 4+.

### Ultrasound Examination

USG abdomen revealed a mass in the distal end of the stomach.

No adenopathy.

Normal liver

### Colour Doppler Examination

Colour Doppler revealed a highly vascular lesion.

### Oesophagogastroduodenoscopy

OGD showed a 3x3x2 cm (approx) growth in the distal stomach, which bled on touch.

OGD biopsy reported elsewhere as Non-specific inflammatory changes.

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Fig. 1

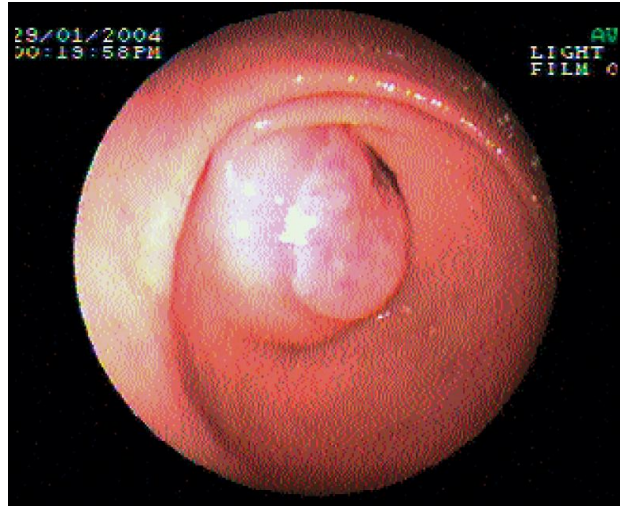


Fig. 2

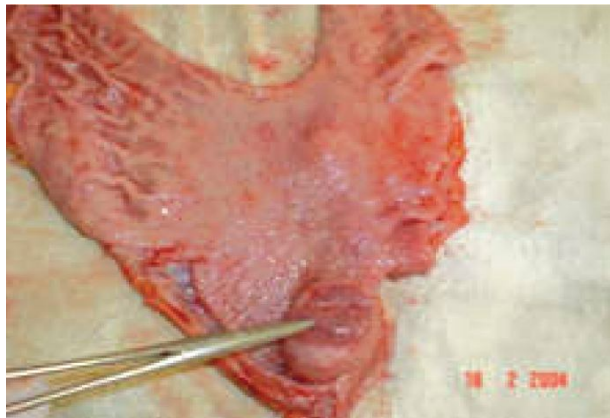


Fig. 3

*Surgical Procedure*

Partial gastrectomy was done. No lymph node or secondaries were found.

The liver was normal.



Fig. 4

*Gross Examination*

Specimen received consisted of Partial Gastrectomy specimen. A 3x3x2 cm diameter tumour was seen at the distal end of the stomach. Cut surface was grayish white. The mucosal surface also showed small plaques throughout. No lymph nodes were identified.

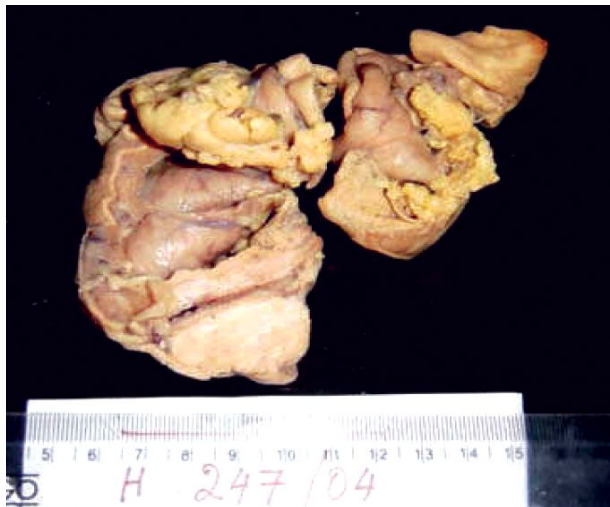


Fig. 5

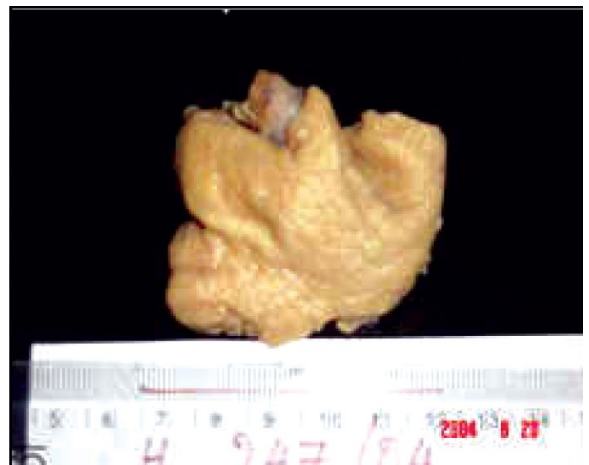


Fig. 6



*Microscopic Feature*

*Hematoxylin & eosin* stain of sections showed Thin walled ramifying blood vessels, anatomizing blood vessels with typical stag-horn pattern. Plump ovoid tumor cells surrounding the capillaries were seen,.

Mitotic figure count was  $> 4/10$  hpf.

*Reticulin Stain* of sections shows tumour cells lying outside the capillary basement membrane and the basement membrane surrounds the tumour cells.

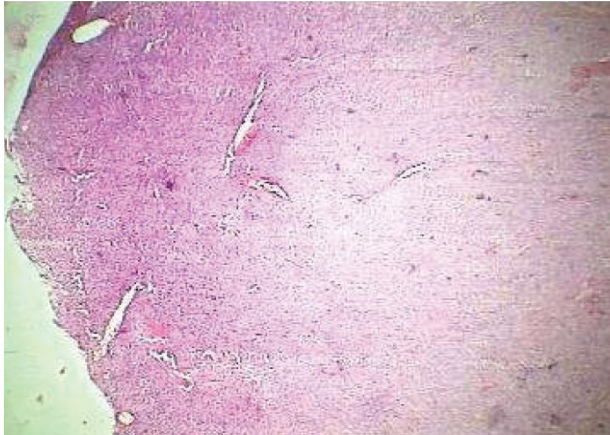


Fig. 7

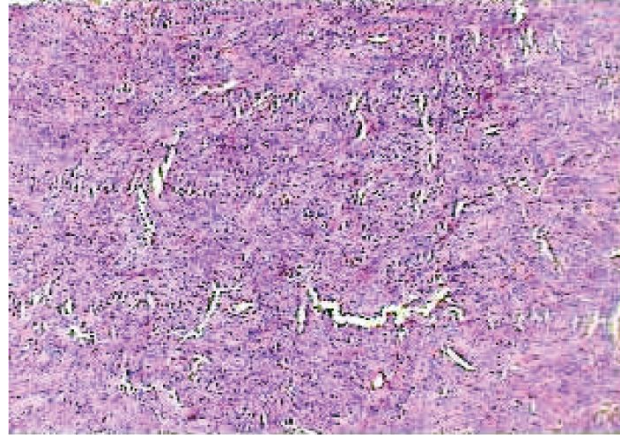


Fig. 8

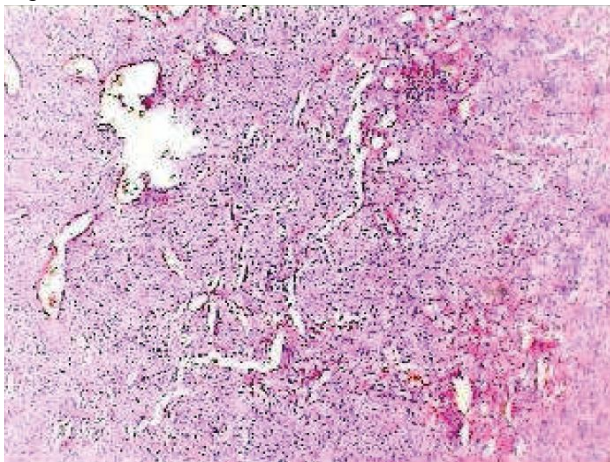


Fig. 9

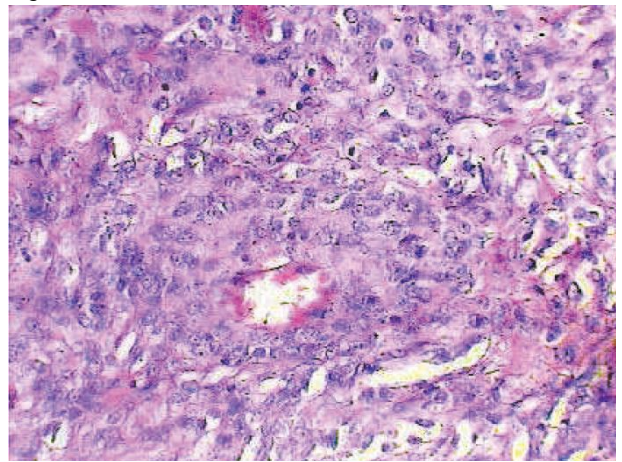


Fig. 10

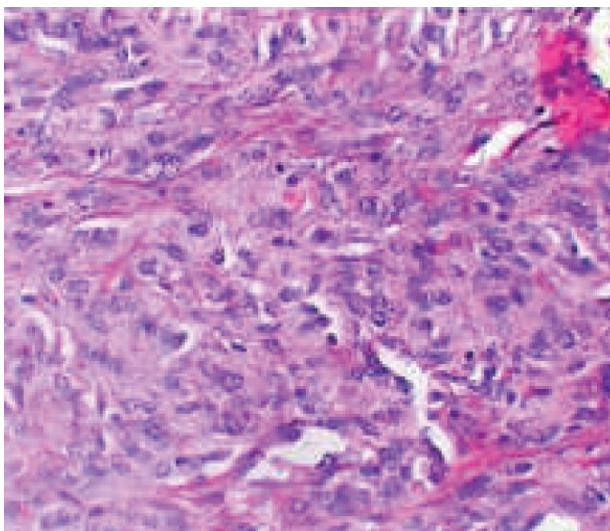


Fig. 11

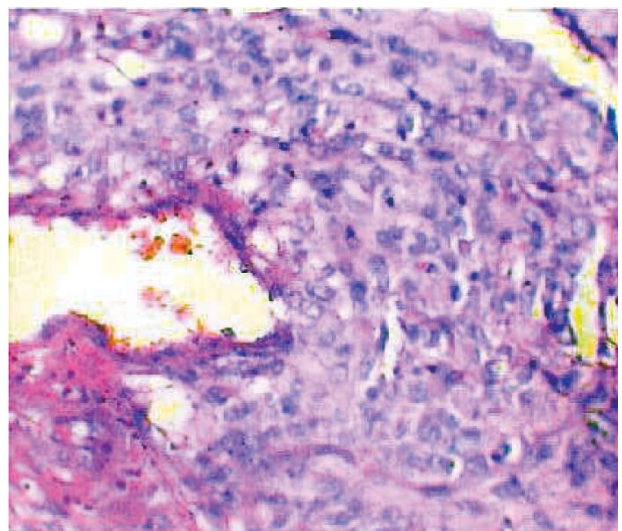


Fig. 12



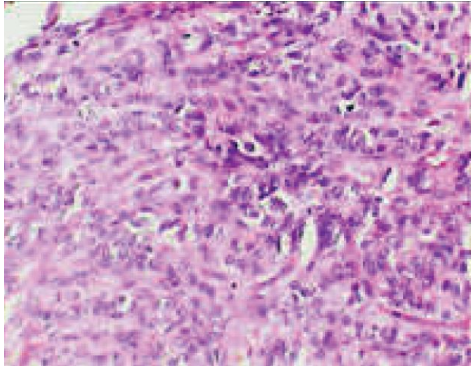


Fig. 13



Fig. 14

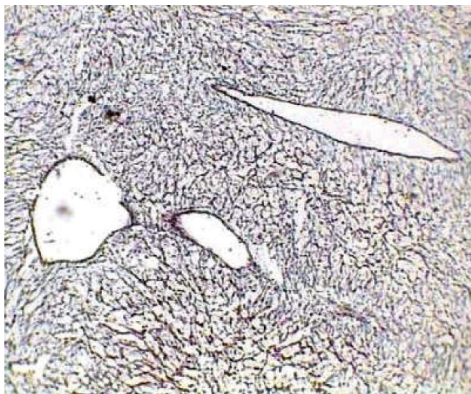


Fig. 15

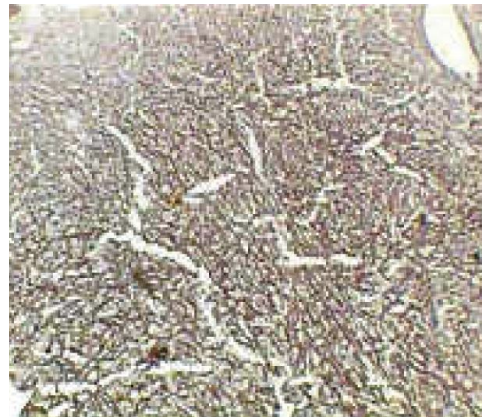


Fig. 16



Fig. 17

## Discussion

### Differential Diagnosis:

- ☞ Synovial sarcoma
- ☞ Mesenchymal chondrosarcoma
- ☞ Fibrous histiocytoma
- ☞ Angioblastic meningioma
- ☞ Gastrointestinal stromal tumour (GIST)
- ☞ Glomus tumour

*Afip Fascicles: Tumour of Esophagus and Stomach*

The Diagnosis of Hemangiopericytoma rests purely on histomorphological features. Its occurrence is extremely rare in the stomach. About 30 cases have been reported in world literature.

A few gastric stromal tumours designated as hemangiopericytoma have been reported. These are described as tumours containing epithelioid cells arranged around small vessels. These tumours may not be hemangiopericytomas but simply epithelioid cell variants of stromal tumours with a prominent vascular component.

However, even if the reported cases are not hemangiopericytomas eventually, a real one will be found in the stomach.

[http://cai.md.chula.ac.th/chulapatho/AFIP/AFIP\\_fascicles/Afip\\_tumor\\_of\\_esophagus\\_and\\_stomach](http://cai.md.chula.ac.th/chulapatho/AFIP/AFIP_fascicles/Afip_tumor_of_esophagus_and_stomach)

### *Electron Microscopy*

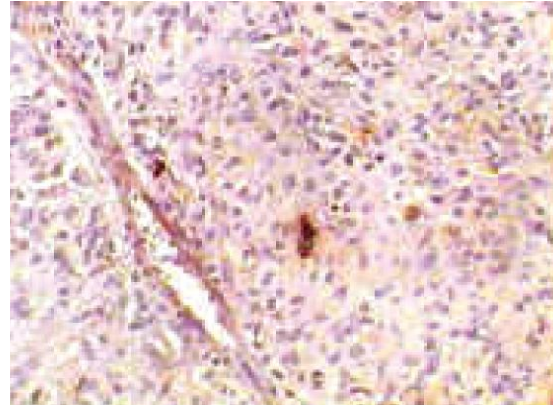
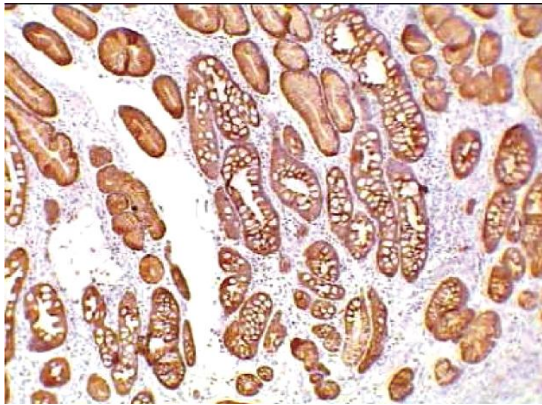
The tumour cells are more or less round and loosely arranged. They have slender extensions of cytoplasm that connect similar processes from adjacent cells. Discrete aggregated of cytoplasmic filaments are only present in a few tumour cells. These filaments are often non-specific. Fine structure of tumour cells is not diagnostic.



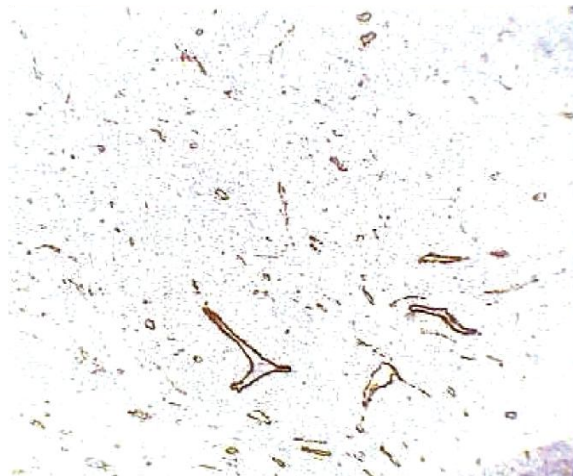
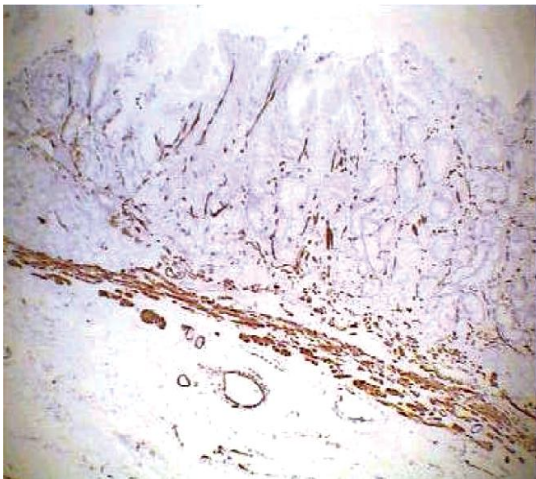
*Immunohistochemistry*

IHC is the only way to confirm the diagnosis of hemangiopericytoma(HPC).There is no specific

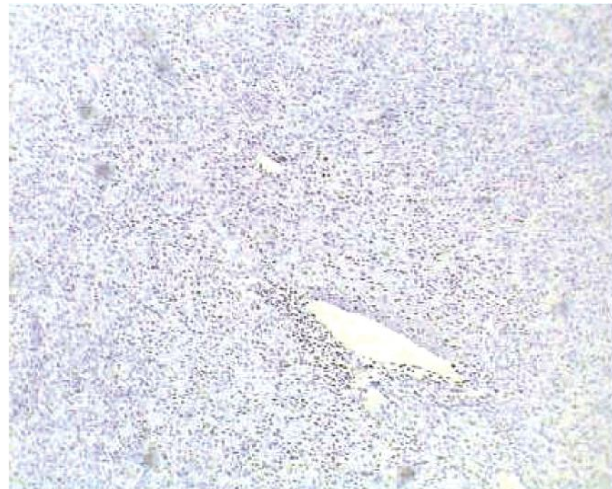
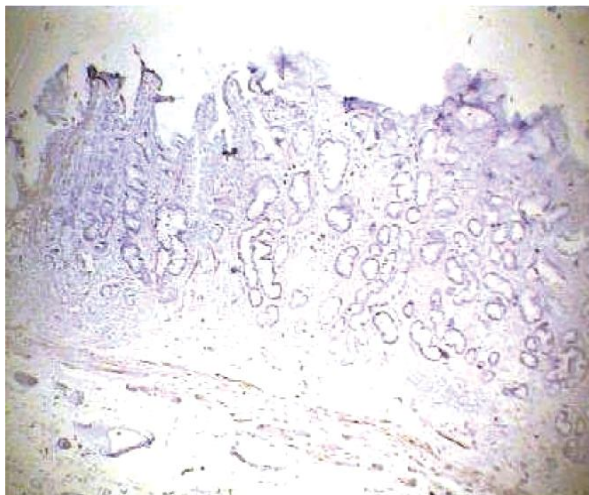
marker for HPC. The diagnosis relies completely on excluding other histologically similar tumours.



CYTOKERATIN: -ve

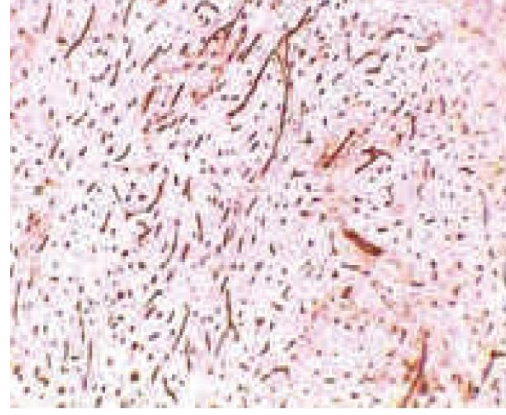
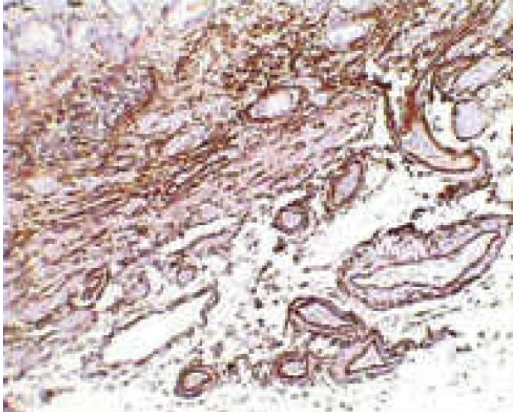


SMOOTH MUSCLE ACTIN (SMA): -ve

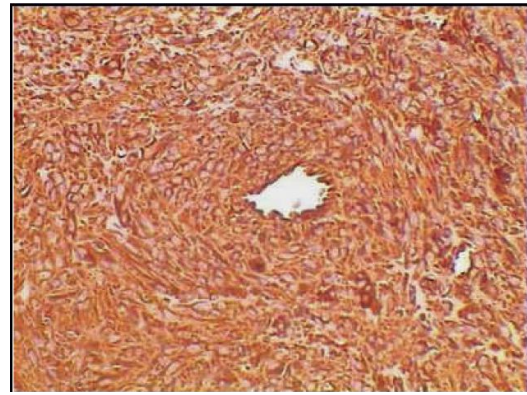
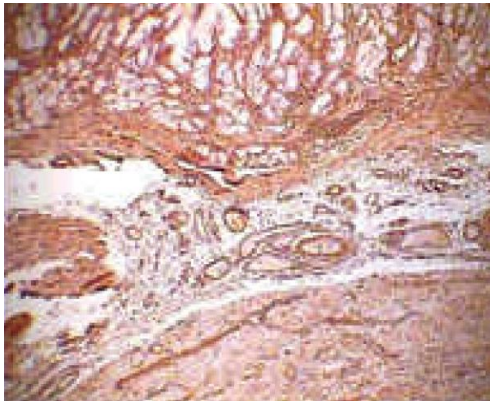


DESMIN: -ve

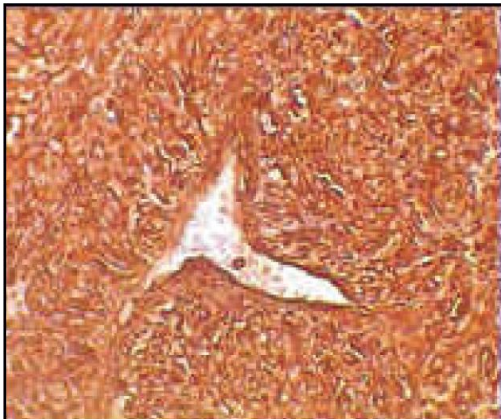




CD 4 (Focally +ve)



VIMENTIN: Strongly +ve

**IHC Panel**

- ☞ Cytokeratin : Negative
- ☞ SMA: Negative
- ☞ Desmin: Negative
- ☞ CD 34 : Focally Positive
- ☞ Vimentin: Strongly positive

Gastrointestinal Stromal Tumours (GIST) are positive for CK, SMA and Desmin Glomus tumour is positive for SMA.

**Conclusion**

Hemangiopericytoma of the stomach is very rare. Only 30 cases have been reported in the world literature. The diagnosis is mainly by histomorphology. Electron microscopy is not confirmatory and IHC confirms the diagnosis.

The majority of the reported cases in world literature have been based on morphology and EM. This is possibly a conclusively proven case of

Hemangiopericytoma of the stomach.

Featuring Zimmermann's Pericytes," *Annals of Surgery*, 1942; 116(1): 26-33. doi:10.1097/0000658-194207000-00004.

#### Reference

1. A. P. Stout and M. R. Murray, "Hemangiopericytoma: A Vascular Tumor

2. [http://cai.md.chula.ac.th/chulapatho/AFIP/AFIP\\_fascicles/Afip\\_tumor of esophagus and stomach](http://cai.md.chula.ac.th/chulapatho/AFIP/AFIP_fascicles/Afip_tumor_of_esophagus_and_stomach)

3. <http://www.ncbi.nlm.nih.gov/pubmed/1481553>

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