

## Esophasial Melanosis: Case Report

Anahita Nosrati 1 , Zhila Torabizadeh 2, Shadi Tahvildari 3, Milad Bahari 4

1. Assistant professor, department of pathology, Imam Hospital , Mazandaran University of Medical Science, Sari, Iran Medical Science, Sari, Iran.
2. Associate professor, department of pathology, Imam Hospital , Mazandaran University of Medical Science, Sari, Iran Medical Science, Sari, Iran.
3. Residence of pathology ,department of pathology, Imam Hospital , Mazandaran University of Medical Science, Sari, Iran.
4. Medical Student of Faculty of medicine, student research committee, Mazandaran University Of Medical Sciences, Sari, Iran

Corresponding author

Zhila Torabizadeh, Associate professor, department of pathology, Imam Hospital , Mazandaran University of Medical Science, Sari, Iran Medical Science, Sari, Iran

**Abstract:** Esophageal melanosis is a benign clinicopathologic diagnosis which it has been said more common in Asian than western population. In this entity melanin deposition in mucosa with an increased melanocytic proliferation can be realized . Its etiology is unknown but it is doubtful to be one of the precursors of esophageal melanoma . We aimed to represent and review histopathologic features of a case of melanosis. A 80 year old woman with long time history of dyspepsia referred to endoscopy department. There was a past history of reflux disease that under histopathologic evaluation and immunohistochemical staining it turned out to be brownish melanocyte proliferation

Esophageal melanosis is a rare benign histopathologic lesion and it has been suggested as a melanoma precursor. Thus, making an accurate diagnosis and patient follow up are recommended.

**Key words:** *Esophagus, Melanocyte, Melanosis, IHC, HMB45, S100.*

### Introduction

The prevalence of esophageal melanosis as a uncommon benign clinicopathologic entity is between 4% to 8% in autopsy , 21% in upper endoscopic evaluation and 29% in surgical specimens having esophageal melanomas . It is more prevalent in Asian than in western population (1).Squamous esophageal epithelium has melanocytes originating from neural crest placing at the interface between epithelium and lamina propria in melanosis process. In cases of melanosis , melanocytic proliferation in the basal layer of squamous epithelium besides increasing in amount of melanin in the melanocytes , keratinocytes, macrophages and fibroblasts in lamina propria are generally evident (2,3,4,5).

There are some changes in related squamous epithelium and stroma such as acanthosis , basal cell hyperplasia and chronic inflammatory cells infiltration in stroma. On hematoxylin – eosin staining the melanocytes present themselves as pigmented – laden dendritic cells containing coarse brownish black pigments. Immunohistochemically reaction for s100, melan A and HMB45 are expected (2). Although in electron microscopic examination the esophageal melanocytes show shortage

desmosomes and tonofilaments , they have cytoplasmic dendritic process that extended between keratinocytes .Even though Masson-Fontana method stains them properly , melanin can be bleached by hydrogen peroxides .Electron microscopically melanocytes have melanosomes that synthesis melanin (2).

The melanocytes naturally placed in the lower portion of esophagus where is the common site of melanoma originated (2).Differential diagnosis includes benign nevi , blue nevus and malignant melanoma because of the main feature of them is melanin production (2 , 6).The Addison's disease and laugier – hunziker syndrome may be associated with melanosis at endoscopy (2 ,6 ,7).Regarding available data we found out just a few isolated cases of esophageal melanosis as a case report . The histopathologic features of esophageal melanosis are reviewed and its differential diagnosis with other pigmented esophageal lesions is discussed.

### Case presentation

A 80 year old woman was referred to upper gastrointestinal endoscopy with a long time history of dyspepsia . She had previous history of reflux syndrome , hypertension and constipation ,but there

was no history of smoking , tobacco or alcohol consumption . There are no positive data on physical examination and blood tests. During upper gastrointestinal tract endoscopy a well defined brown – black pigmented patch in mid portion of esophagus was discovered and at once multiple biopsies were taken . A paraffin block was prepared and then glass slide stained by hematoxylin – eosin. Under histopathology examination esophageal squamous epithelium revealed mild bland -looking melanocytic hyperplasia without any mitotic activity in basal layer and accumulation of melanin pigments in adjacent lamina propria . The underlying stroma displayed mild lymphocytic infiltration with no evidence of fibrosis (figure-1).In addition immunohistochemical staining for S100, HMB45 and MNF116 were performed. Apparently the melanocytes were positive for S100 and HMB45 but they were negative for MNF116, consistent with esophageal melanosis (figure- 2).

**Figure-1 Esophagus, Melanesia, Increased melanin pigmentation in basal layer and melanophages (H&E 4x)**

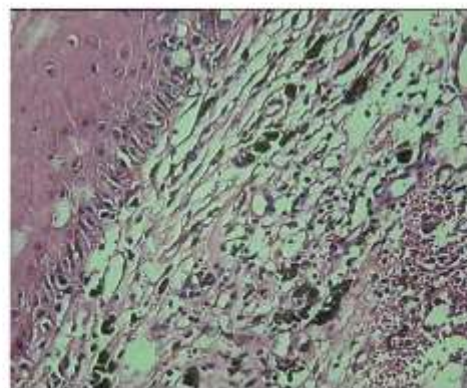


## DISCUSSION

Esophageal melanosis is a rare benign entity that characterized by an increase in the amount of melanin in mucosa and increase in the number of melanocytes in basal layer of epithelium . The etiology and pathogenesis of this lesion is unknown . Yet there is basically some kind of hypothesis suggesting that esophageal melanosis and melanocytosis resulted from prolonged stimulation

and inflammation of mucosa . Furthermore , the melanosis has been proposed to be a precursor of malignant melanoma (2 ,5).The primary malignant melanoma , melanocytic nevus and blue nevus of esophagus are in differential diagnosis with melanosis based on macroscopic and microscopic evidence , but it did not take place in our case due to lack of any feature of malignancy on the base of nuclear atypia and mitotic activity for considering melanoma. There are no organized melanocytic proliferation in rete ridges and no increased stromal pigmented dendritic cells for making diagnosis of melanocytic and blue nevus respectively as well .To the best of our knowledge prognosis of esophageal melanosis and its association with malignant melanoma are still skeptical and controversial, hence , follow up can be helpful for this lesion .

**Figure-1 Esophagus, Melanesia, Increased melanin pigmentation in basal layer and melanophages (H&E 4x)**



## Aknowlegment :

We would like to thank Doctor Kamyar Khodadadi for his sincere cooperation in performing the advanced research.

## References:

- 1) Cecilia M. Fenoglio , Amy E. Noffsinger, Grant N. Stemmermann, Patrick E. Lantz and Peter G. Isaacson. Gastrointestinal Pathology: An Atlas and Text, 3rd Edition. 2005; 77

2) Fuju Chang and Harriet Deere. Archives of Pathology & Laboratory Medicine: April 2006;130: (4): 552-557.

3) Unverdi H, Savaş B, Ensarı A and Ozden A. Melanocytosis of the oesophagus: case report. Turk Patoloji Derg. 2012; 28(1):87-89.

4) Kenichi Ohashi , Yo Kato , Jun Kanno and Tsutomu Kasuga. Melanocytes and melanosis of the oesophagus in Japanese subjects- analysis of factors effecting their increase. Virchows Archiv A Pathol Anat. 1990; 417:137-143

5) Kazuto Yamazaki, Tai Ohmori, Yoshiya Kumagai, Hiroyasu Makuuchi, and Brian Eyden . Ultrastructure of oesophageal melanocytosis. Virchows Archiv A Pathol Anat .1991;418:515-522

6) A Chattree, A Howat, A T Green, and R Saravanan. A rare cause of oesophageal pigmentation. BMJ Case Rep. 2010; [www.ncbi.nlm.nih.gov/pmc/articles/pmc3027875](http://www.ncbi.nlm.nih.gov/pmc/articles/pmc3027875)

7) Yamamoto O, Yoshinaga K, Asahi M and Murata I. A Laugier-Hunziker syndrome associated with esophageal melanocytosis. Dermatology. 1999;199(2):162-164.