

# Pagetoid Squamous Cell Carcinoma In-Situ of Esophagus

Priyadarshinee A,<sup>1</sup> Bhattacharya B<sup>2</sup>

<sup>1</sup>KIST Medical College and Teaching Hospital,

Imadol, Lalitpur, Nepal.

<sup>2</sup>Samyak Pathology Lab,

New Baneshwor, Kathmandu, Nepal.

## Corresponding Author

Anamika Priyadarshinee

KIST Medical College and Teaching Hospital,

Imadol, Lalitpur, Nepal.

E-mail: anamika.pr@gmail.com

## Citation

Priyadarshinee A, Bhattacharya B. Pagetoid Squamous Cell Carcinoma In-Situ of Esophagus. *Kathmandu Univ Med J.* 2023;83(3):340-1.

## ABSTRACT

Squamous cell carcinoma (SCC) is the most common malignant tumor of the esophagus, however, pagetoid SCCIS is an extremely rare condition in esophagus.<sup>1</sup> Pagetoid Squamous Cell Carcinoma In-Situ (SCCIS) has been described in skin and external genitalia frequently.<sup>2</sup> Herein we report a case of pagetoid squamous cell carcinoma in-situ in a 50-year-old male with clinical information, histopathological and immunohistochemical findings.

The patient was a 50 years male with dyspepsia, refractory to proton pump inhibitors (PPIs). In upper gastroduodenal endoscopy, there was no obvious lesion in the esophagus and only mild erythema was noted. Biopsy showed a surprising finding of full thickness high grade squamous dysplasia in the lining squamous epithelium with scattered single large atypical cells. These cells were present away from the foci of dysplasia. The cells were large and showed marked pleomorphism, vesicular nuclei, prominent nucleoli and abundant pale to eosinophilic cytoplasm. Immunohistochemistry (IHC) was positive for p63 and p53, which confirmed the diagnosis of pagetoid SCCIS.

Pagetoid squamous cell carcinoma in-situ is one of the rare entities with subtle clinical presentation and endoscopic findings. Evaluation of this case signifies the importance of taking biopsies in the lesions which shows minimal mucosal change in the endoscopy.

## KEY WORDS

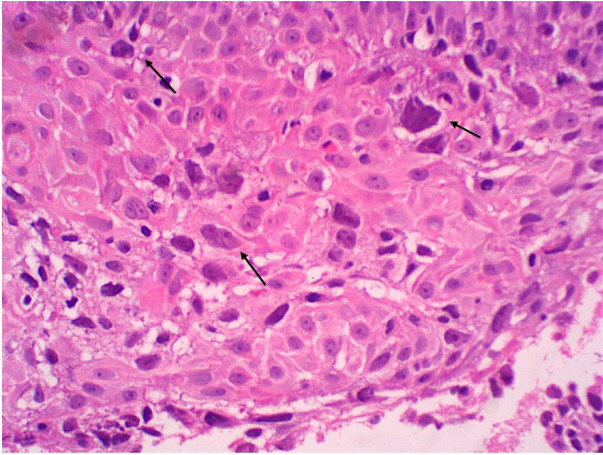
*Dysplasia, Endoscopic esophageal biopsies, Immunohistochemistry, Pagetoid, Squamous cell carcinoma in-situ*

## INTRODUCTION

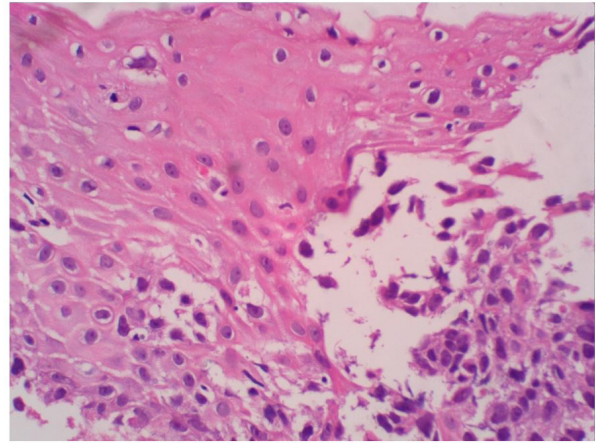
Squamous cell carcinoma of esophagus is eight most common malignant tumor and sixth most common cause of cancer related death. In the Asian region squamous cell carcinoma is the most common malignant tumor of the esophagus, where as there is noticeable increase in adenocarcinoma in the western region.<sup>3</sup> Squamous cell carcinoma in-situ is the precancerous lesion of the squamous cell carcinoma.<sup>4</sup> Esophageal pagetoid squamous cell carcinoma in-situ, is one of the histological variant of squamous cell carcinoma in-situ, which is one of the rare tumors.<sup>1</sup> Paget's disease is defined as neoplastic mucin producing glandular cells infiltration in the squamous epithelium.<sup>5</sup> Pagetoid squamous cells shares histomorphological resemblance with the Paget's disease. In such cases IHC is a valuable diagnostic tool, which will help to differentiate squamous or glandular origin of neoplastic cells.<sup>1</sup>

## CASE REPORT

Fifty years old Nepalese male presented with history of dyspepsia not resolving with proton pump inhibitors (PPIs). Endoscopic diagnosis of the esophagus was moderate esophagitis. The biopsy from esophagus was taken to rule out eosinophilic esophagitis (EOE). The esophageal biopsies of the patient revealed full thickness high grade dysplasia with marked atypia. There were scattered pagetoid cells situated away from the dysplastic epithelium. These pagetoid cells showed marked nuclear pleomorphism, vesicular nuclei, prominent nucleoli and moderate amount of pale to eosinophilic cytoplasm. Numerous mitoses along with atypical mitosis were present within the lesion. There was no frank invasion in the small biopsy. Immunohistochemistry of these cells were positive for p63 and p53. Ki-67 showed increased proliferative index-70%. These cells were negative for CK.<sup>7</sup> The histological and immunohistochemical findings were supportive of esophageal pagetoid SCCIS.



**Figure 1.** Singly scattered Pagetoid cells (marked with arrow heads) with hyperchromatic nucleus, prominent nucleoli and moderate amount of pale eosinophilic cytoplasm.



**Figure 2.** Singly scattered pagetoid cells (upper left) and dysplastic squamous epithelium (lower right).

## DISCUSSION

Nepal is a landlock country with total population of 2,91,36,808. Number of new cancers per year is 20,508 and number of new cancer deaths are 13,629. Esophageal cancer ranks 19<sup>th</sup> among all the cancers in Nepal with prevalence of 229 (1.1%) new esophageal cancer per year.<sup>6</sup> In a study done at BP Koirala memorial cancer hospital, Nepal, squamous cell carcinoma was the most common cancer of the esophagus followed by adenocarcinoma. Most common site for the SCC was middle esophagus followed by distal then upper region.<sup>7</sup>

Paget's disease was first diagnosed in the nipple and areola of skin as the invasive malignant glandular epithelial cells, appearing as nests or gland like structures present in the epidermal layer. These cells were showed glandular

differentiation on mucin stain and immuno-histochemical staining. Later on, other sites were also found to be involved by Paget's disease and they were referred as Extramammary Paget's Disease (EPD).<sup>3</sup>

Pagetoid cells are the cells that has morphological resemblance to the tumor cells of the Paget's disease with negative mucin stain, negative CK 7 and CK 20 stain. Pagetoid squamous cell carcinoma in-situ is the precursor lesion of the esophageal SCC and which appears normal on endoscopy or may have subtle changes such as erythema, friability, erosion, plaque and nodularity.<sup>4</sup>

This case signifies the importance of biopsies from the esophagus, even when there are mild changes in endoscopy such as thickened mucosa or erythema.

## REFERENCES

1. Wen T, Wang W, Chen X. Recent advances in esophageal squamous cell precancerous conditions: A review. *Medicine (Baltimore)*. 2022 Dec 16;101(50):e32192. doi: 10.1097/MD.00000000000032192. PMID: 36550838; PMCID: PMC9771210.
2. Raju RR, Goldblum JR, Hart WR. Pagetoid squamous cell carcinoma in situ (pagetoid Bowen's disease) of the external genitalia. *Int J Gynecol Pathol*. 2003; 22:127-35. <https://doi.org/10.1097/00004347-200304000-00003>.
3. Sano A, Sakurai S, Komine C, Tabe Y, Saito K, Fukasawa T, et al. Paget's disease derived in situ from reserve cell hyperplasia, squamous metaplasia, and squamous cell carcinoma of the esophagogastric junction: a case report. *Surg Case Rep*. 2018;4. <https://doi.org/10.1186/s40792-018-0489-1>.
4. Jain S, Dhingra S. Pathology of esophageal cancer and Barrett's esophagus. *Ann Cardiothorac Surg*. 2017; 6:99-109. <https://doi.org/10.21037/acs.2017.03.06>.
5. White H, George S, Gossage J, Chang F. Esophageal Paget's Disease Secondary to Hypopharyngeal Carcinoma: A Case Report. *J Gastrointest Cancer*. 2019; 50:625-8. <https://doi.org/10.1007/s12029-018-0087-2>.
6. Nepal [Internet]. [cited 2023 Feb 22]. Available from: <https://gco.iarc.fr/today/data/factsheets/populations/524-nepal-fact-sheets.pdf>
7. Shrestha BM, Thakur BK, Lee MC. Histological pattern of esophageal cancer at BP Koirala memorial cancer hospital in Nepal: a three year retrospective study.