

## Lobular Endocervical Glandular Hyperplasia: A case report

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### ABSTRACT

Most cervical adenocarcinomas currently are HPV related. With increasing use of HPV vaccine, the prevalence of HPV related carcinomas may reduce & there might be relative increase in occurrence of non HPV related carcinomas. Gastric variant of cervical adenocarcinoma is one such HPV-independent carcinoma and recognized as distinct entity by WHO 2014. A spectrum of benign, premalignant and malignant endocervical lesions showing gastric differentiation have emerged in the past decade. Lobular endocervical glandular hyperplasia (LEGH) is one such benign precursor of gastric variant of cervical adenocarcinoma. We in this case report discuss various gross, histomorphologic, histochemical and immunohistochemical features of LEGH.

**Keywords:** Lobular Endocervical Glandular Hyperplasia, HPV, cervix

### Introduction

Cervical adenocarcinomas have been divided into Human Papilloma Virus (HPV) associated and HPV independent variants. Gastric variant of cervical adenocarcinoma are HPV-independent and recognized as distinct entity by WHO 2014. A spectrum of endocervical lesions showing gastric differentiation have emerged in the past decade and regarded as part of the HPV independent pathway of carcinogenesis. [1] These include benign, premalignant & malignant lesions. Established benign lesions include simple gastric metaplasia and lobular endocervical glandular hyperplasia (LEGH). Postulated premalignant lesions comprise atypical LEGH and gastric-type adenocarcinoma in situ, while the malignant tumors comprise gastric type adenocarcinoma including minimal deviation adenocarcinoma, also known as adenoma malignum. [2, 3] With increasing use of HPV vaccine, the prevalence of HPV related carcinomas may reduce & there might be relative increase in occurrence of such non HPV related carcinomas.

### Case Report

We report here a case of 40 years old woman complaining of menorrhagia and per vaginal watery discharge. Clinical suspicion was of carcinoma of endocervix. Biopsy of cervix was reported as atypical endocervical hyperplasia.

We received the hysterectomy specimen. Grossly, a well demarcated spongy area in the endocervix measuring 2.4 x 2 x 0.5cms in size was seen. The microscopic examination showed lobular proliferation of small to moderate sized endocervical glands centered on a large gland. Some of the glands showed cystic change. These were lined by benign mucinous epithelium with mildly enlarged basal nuclei,

pale eosinophilic cytoplasm and supranuclear cytoplasmic mucin. No nuclear atypia, mitoses or necrosis were seen. No desmoplastic reaction was seen surrounding these glands. (Figure 1) On Alcian blue and PAS stain, these glands showed pale red cytoplasmic staining like gastric mucin. The rest of the surrounding endocervical glands showed dark bluish to purple staining like cervical mucin. (Figure 2) Immunohistochemistry (IHC) for CEA was negative. (Figure 3) The final diagnosis rendered was LEGH.

### Discussion

LEGEH was first described in 1999. Some of the patients are asymptomatic while others may have watery discharge. [4] Imaging modalities may suggest possibility of adenoma malignum. On macroscopic examination a well to poorly demarcated lesion located in the inner half of the cervix is seen. Microscopically, a distinctly lobular proliferation of small to moderately sized rounded glands often centered on a larger central gland is seen. Glands within the lobules are separated from each other by unaltered or hypercellular cervical stroma and lined by columnar mucinous cells similar to the normal endocervix. Mucin stains show gastric pyloric gland like staining and IHC for CEA is negative. Occasional reactive atypia of the endocervical cells and mitoses but no significant cytologic atypia is identified. Our case matched all of the above described features. Rest of the uterus revealed adenomyosis.

The endocervical adenocarcinoma was excluded on the basis of lack of cytologic atypia, mitoses, invasion, desmoplasia and negative CEA. The other differentials include microglandular hyperplasia, atypical LEGH, adenocarcinoma in situ. Microglandular hyperplasia shows closely packed benign glands composed of cuboidal

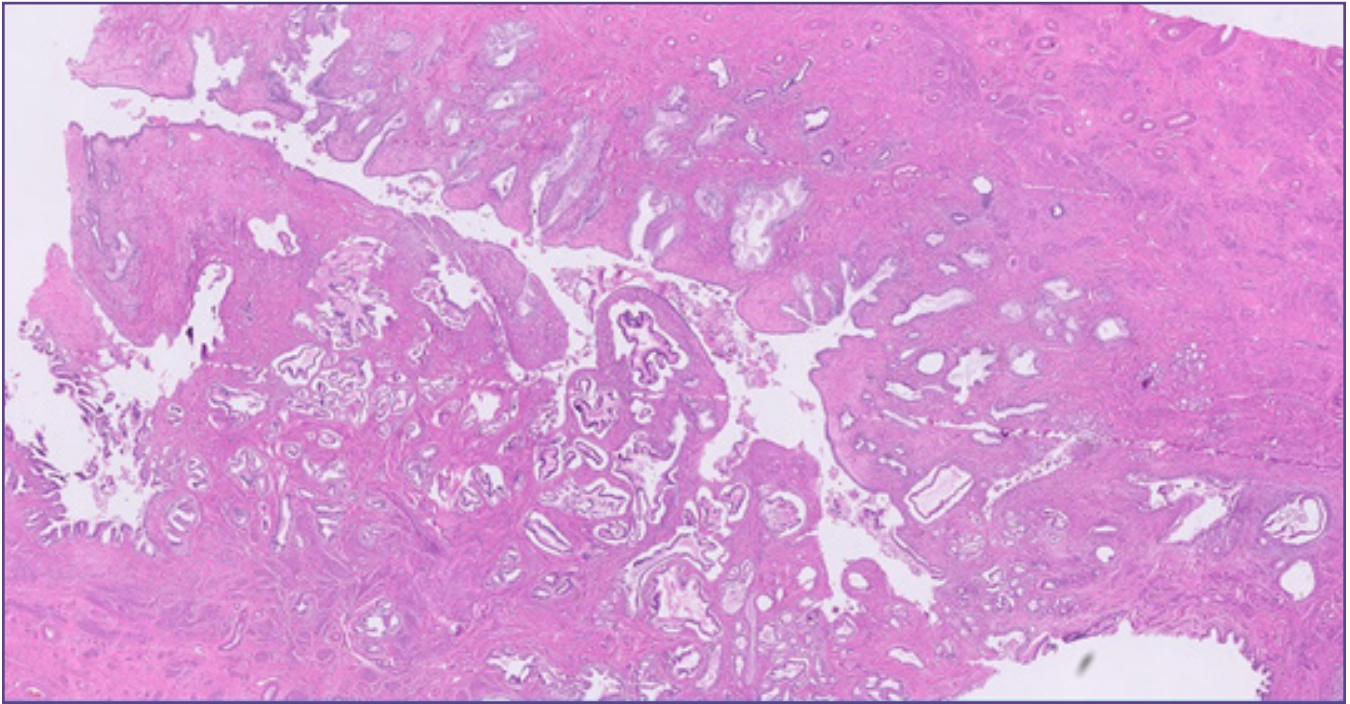


Fig. 1: The lower half shows lobular proliferation of small to moderate sized glands centred on a large gland with focal cystic change, lined by benign mucinous epithelium with mildly enlarged basal nuclei. No nuclear atypia, mitoses, necrosis or desmoplastic reaction is seen. H&E, 20x.

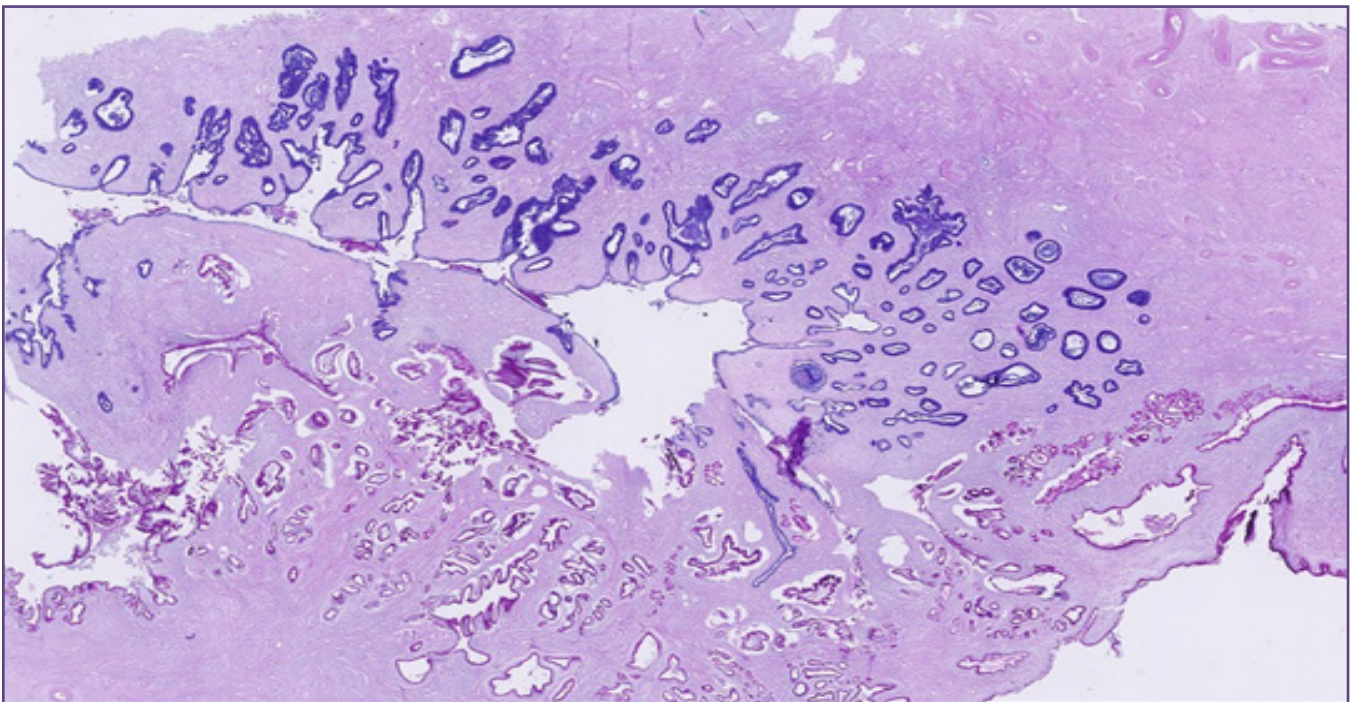
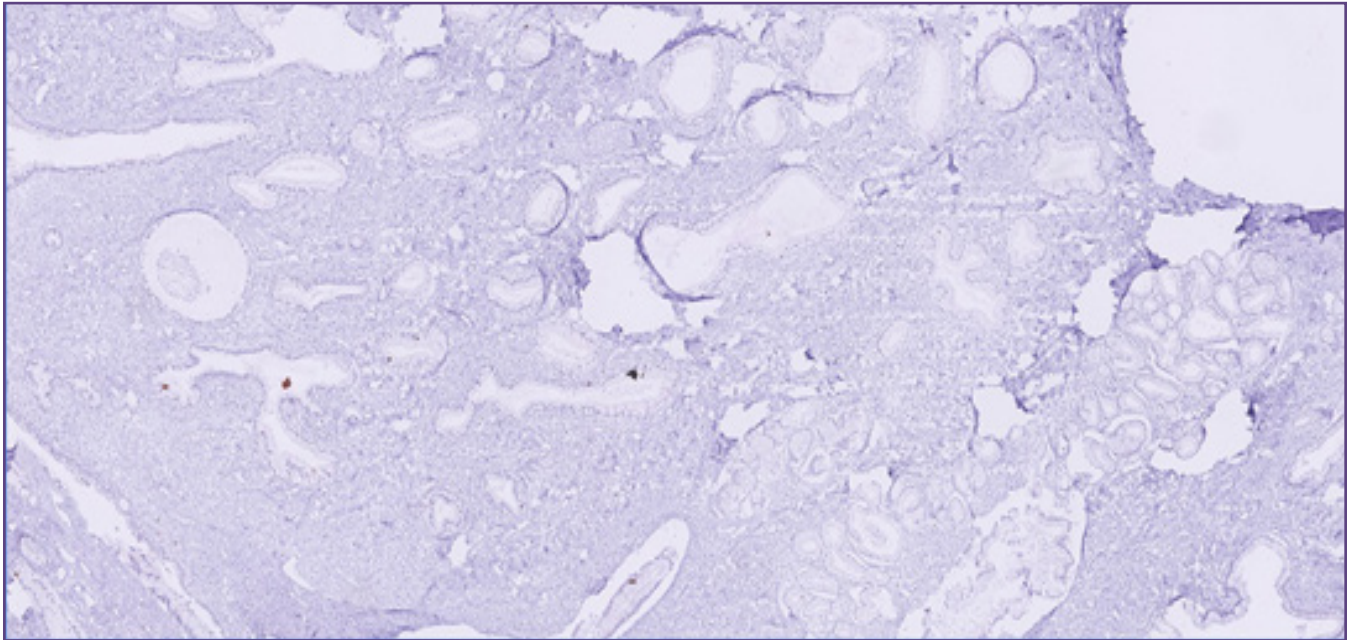


Fig. 2: On Alcian blue and PAS stain, LGEH glands show red cytoplasmic staining like gastic mucin. The rest of the surrounding endocervical glands show dark bluish to purple staining like cervical mucin. 20x.





**Figure 3: IHC for CEA is negative. 40x**

to columnar cells with subnuclear mucin vacuoles and epithelial tufting and accompanying intraluminal neutrophilic infiltrate. [5] No mucin vacuoles, tufting or neutrophilic infiltrate was seen in our case. Atypical LEGH is characterized by complex glandular architecture and cytologic atypia in the form of nuclear enlargement and hyperchromasia. Increase in size, worsening cytology and raspberry-type multicystic lesion on radiology are indicators of disease progression. [7-8] In our case, no complex glands or significant atypia was seen hence atypical LEGH was excluded. Adenocarcinoma in situ is characterized by preserved glandular architecture; involvement of part or all of the epithelium lining glands or forming the surface; nuclear enlargement, coarse chromatin, small single or multiple nucleoli; increased mitotic activity, variable stratification of nuclei and abundant cytoplasmic mucin. [9] In our case no nuclear enlargement, coarsening of chromatin, nucleoli or mitoses were seen ruling out adenocarcinoma in situ.

### Conclusion

Gastric type adenocarcinomas are non HPV associated, more aggressive, chemoresistant malignant neoplasms. It is important to recognize the precursor lesions of such gastric type adenocarcinomas of cervix like lobular endocervical glandular hyperplasia and differentiate them from adenoma malignum. Pathologists should be familiar with the morphologic spectrum of these benign, premalignant, and malignant cervical glandular lesions exhibiting gastric differentiation in this era of increasing HPV vaccination.

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