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*Case Report .*

# Glassy Cell Carcinoma of Cervix: A Rare Case Report

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## ABSTRACT

Glassy cell carcinoma (GCC) of cervix is a rare malignancy of uterine cervix. It is a rare subtype of poorly differentiated adenosquamous carcinoma accounting less than 1% of all cervical cancers and associated with aggressive behavior. Histologically it is diagnosed by sheets of large polygonal cells with distinct cell borders, finely granular ground glass like cytoplasm and vesicular nuclei with prominent nucleoli. It displays marked pleomorphism and mitosis with characteristics eosinophilic stromal infiltrate. IHC positivity to CEA, CK7 and PAN Ck with HMWK further establishes the diagnosis. We discuss a case report of 36 yr old female diagnosed with a glassy cell carcinoma.

**Keywords:** Adenosquamous, Cervix, Glassy Cell Carcinoma.

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## INTRODUCTION

Glassy cell carcinoma (GCC) was first described in 1956 by Gluksman and Cherry. It was classified as poorly differentiated variant of adenosquamous carcinoma showing either an undifferentiated pattern of pure glassy cells or showing feature of squamous or glandular differentiation.[1] It is an uncommon neoplasm with a characteristic histomorphological finding. The peculiar name is attributed due to presence of characteristic glassy cells that are large polygonal cells with abundant granular cytoplasm and prominent nucleoli. It runs an aggressive course as the disease presents at an advanced stage at the time of diagnosis with a tendency for early metastasis. So an early diagnosis can help in effective management and a better outcome in patients affected with this carcinoma.

## CASE REPORT

A 36 years old female presented to gynaecology OPD with c/o intermittent bleeding PV since past 2 months. On examination she had mild pallor with her vitals being normal. Haematological parameters showed Hb being 8gm% and peripheral smear revealed microcytic hypochromic anemia. Per speculum showed an exophytic growth of 45mmx36x24mm in cervical area. Biopsy was advised and we received multiple bits of grayish white tissue bits. Microscopy showed presence of tumour cells in clusters and diffuse pattern separated by fibrous stroma with a dense inflammation rich in eosinophils. Individual tumour cells (also called as glassy cells) are round to polygonal cells with abundant pale eosinophilic granular cytoplasm and low nuclear cytoplasmic ratio. The nuclei are large, round to oval, with multinucleation and prominent multiple nucleoli. Mitotic activity was also high. Patient underwent total hysterectomy with pelvic lymphadenopathy and sample was send to our dept for HP analysis. Sections were given from growth, uterine wall, vaginal flap, and all lymphnodes. Uterine wall, vaginal flap, parametrium and lymphnodes were free from tumour infiltrates. Final diagnosis of glassy cell carcinoma was given after subjecting it for IHC study which showed positivity for CK7.

## DISCUSSION

Glassy cell carcinoma (GCC) of the uterine cervix is an uncommon, aggressive neoplasm having an incidence of 1-5.75% of all malignant cervical neoplasms.[1,3,4] It was initially described by Gluksmann and Cherry in the year 1956, and was further modified by Littman in 1976.[2,3] Even though it is encountered in cervix it may be seen rarely in endometrium, vagina ,fallopian tube and colon.[4] The mean age of patients is about 10 years younger than conventional carcinoma cervix.[5] Few Oncologists are in view of occurrence of this carcinoma in multiparas[6] while some authors suggests its coincidence with pregnancy.[1,8] The tumour usually presents as an ulcerated or non-ulcerated growth (exophytic) around the squamo-columnar junction or grows into the endocervical canal (endophytic growth) in a barrel-shaped fashion with extension into the vagina and parametrium.[7] Other forms of presentation may be as a cervical polyp or as a microinvasive lesion.[8,9]

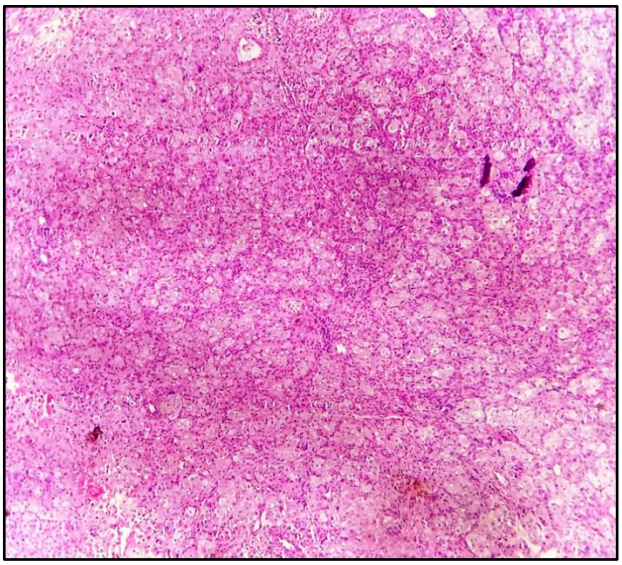

**Fig 1: LP 100X; Shows tumour cells in diffuse pattern.**

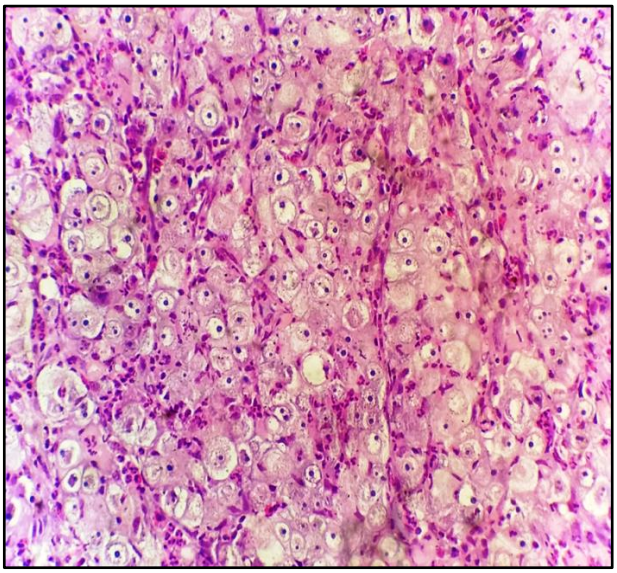

**Fig 2: HP 400X; Shows typical glassy cells (tumor cells) admixed with stromal infiltrates rich in eosinophils.**

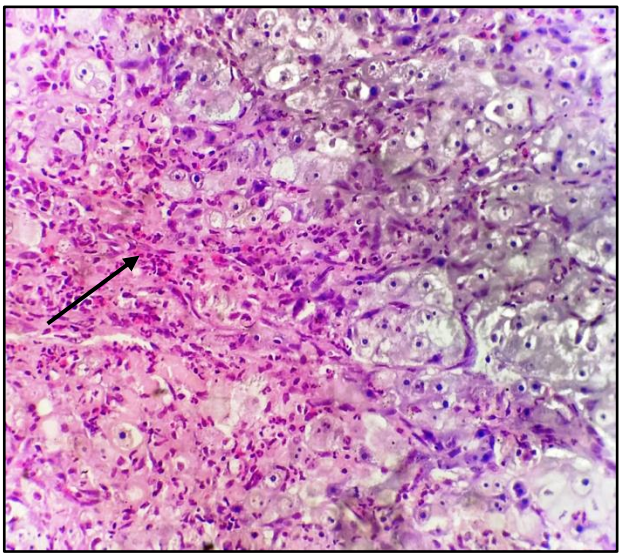

**Fig 3: HP 400X; Shows tumour cells with round to polygonal cells with abundant pale eosinophilic granular cytoplasm. The nuclei are large, round to oval, with multinucleation and prominent multiple nucleoli with eosinophilic stroma (arrow)**

Most common symptom indicating the presence of glassy cell carcinoma is abnormal vaginal bleeding or post coital bleeding in an young female of reproductive age group.[10]

Histomorphologically this rare entity is characterized by presence of glassy cells in clusters separated by fibrous stroma with a dense inflammation rich in eosinophils.[6]

The presence of abundant pale eosinophilic granular cytoplasm in round to polygonal cells with low nuclear cytoplasmic ratio is considered to be hallmark of glassy cell carcinoma. The nuclei are large, round to oval, with multinucleation and prominent multiple nucleoli.[7,8]

The membrane stains positive with PAS stain which stains bright pink. Cellular pleomorphism, numerous abnormal mitoses (5/hpf), spindled, bizarre cells and foci of necrosis are usual features. The tumor may exhibit a pure glassy pattern or shows a tendency of abnormal keratinisation or poorly formed squamous pearls to glandular differentiation in the form of poorly formed glands lined by glassy cells. Presence of mucin secretion if present, in some cases is evident intracellularily in glassy cell areas and extracellular in glandular areas.[3,11]

Percentage of glassy cells required for diagnosis is not clearly stated, but many propose for a minimum of 30% of cells with glassy appearance in a tumour to make a diagnosis of glassy cell carcinoma.[12]

GCC sometimes may pose diagnostic difficulty in differentiating it from its closer mimick lymphoepithelioma like carcinoma of cervix which is characterized by large uniform tumour cells in an inflammatory background ,but nuclei is oval and vesicular and cytoplasm is ill defined. The tumour cells are present in syncitial pattern with absence of glassy cells and stroma rich in inflammatory background predominantly of lymphocytes. Other differential diagnosis in histology includes poorly differentiated neoplasms involving cervix like large cells non keratinizing squamous cell carcinoma, poorly differentiated adenocarcinoma, clear cell carcinoma and clear cell sarcoma (Alveolar soft part sarcoma of female genital tract).

But GCC exhibits only focal squamous or adenocarcinomatous differentiation, and have extensive eosinophilic infiltrate, which is characteristic. Clear cell carcinoma (mesonephroid carcinoma) of cervix shows glands or papillary processes and characteristics hobnail cells with nuclei protruding away from the base of the cells, the cells are smaller than GCC and contain abundant intracytoplasmic glycogen in contrast to the relative absence of it in GCC. Also alveolar soft part sarcoma is differentiated by an alveolar pattern and PAS+ve crystals in the cytoplasm. GCC being a rare subtype of poorly differentiated adenosquamous carcinoma shows IHC positivity to CEA, CK7 and PAN CK with HMWK .

GCC has a rapid growth pattern with reported metastasis to lymph nodes and distant organs.[1,7] Metastasis is mainly observed in lungs, liver, spleen, bone marrow. GCC is usually diagnosed in women of young reproductive age group, so there is a need for conservative management. Local recurrences usually known to occur at vaginal apex, parametrium, ovaries and paraortic lymphnodes.[13] Risk factors for recurrence are lymphatic invasion, deep stromal invasion and tumour size >3 cms.[6] The five year survival for GCC was variably reported to be between 13-30% and the biological behavior is similar to other poorly differentiated carcinomas.

## CONCLUSION

A diagnosis of Glassy cell carcinoma should always be kept in mind when dealing with younger female with suspected carcinoma cervix. Patients with lymphovascular invasion, deep stromal invasion, large tumour size are at highest risk for pelvic relapse. However, patient shows significant improvement with combined radical surgery, aggressive radiation therapy and Cisplastin containing chemotherapy.[6] Our patient being younger age group didn't undergo surgery, and is under chemotherapy and is known to respond well to therapy.

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