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Case Report

Glial tissue in the endocervical polyp: A very rare occurance

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Abstract

Gliomatosis of the uterus is a very rare condition. In this condition glial tissue most of the time get implanted in the cervix and presents as a polypoidal lesion. Clinical presentation is like any endo cervical polyp, with intermentrual bleeding or post coital bleeding or vaginal discharge. Cause for the presence of glial tissue in the cervix is still not understood well. Some consider this to be fetal neural tissue that get implanted in the cervix during evacuation of the products of conception in abortion, while others consider this to be metaplastic neural tissue from the muellerian cells present in the endo cervical stroma. We present this extremely rare and probably the first case of gliosis in the endo cervix from India.

Keywords: Endo cervix, Glial tissue, Polyp.

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1. Introduction

Gliomatosis of the uterus is a very rare condition. In this condition glial tissue most of the time get implanted in the cervix and presents as a polypoidal lesion.[1-3] Glial tissue present in the endo cervix usually presents as an endo cervical polyp. Very rarely the polyp is big enough to be noticed by the patient. Clinical presentation of this polyp is usually as inter menstrual bleeding, post coital bleeding or vaginal discharge. Usually tumors like leiomyoma, neuroendocrine tumor or lymphoma present clinically as an endo cervical polyp. Origin of the glial tissue in the endo cervix is still not well understood. Some consider them to be fetal neural tissue trapped in the endo cervix during evacuation in abortion while others consider this tissue to be metaplastic in nature arising from the pluripotential stem cells.[4-6] Presence of glial tissue in the endo cervix is an extremely rare event. There have been less than one hundred cases in the world literature and most of them are single case reports. We present a case of glial tissue in the endo cervix and presenting as an endo cervical polyp in a forty two year old woman. We assume that this could be the first case of gliosis in the endo cervix from India

2. Case Report

A forty two year old lady presented to the Gynecology outpatient department with the complaints of inter menstrual bleeding, burning sensation while passing the urine and white discharge per vagina for the last three months. Clinical history indicated that she had two normal vaginal deliveries, undergone tubectomy two years back. The last child was born thirteen years back. General examination did not reveal any significant findings. Gynecologic per speculum examination revealed a bulky, hypertrophic cervix. A polypoidal lesion was identified in the endo cervix.

Polypectomy was done and the tissue was sent for the routine histopathological examination. The specimen received was a small oval polypoidal grayish brown tissue of size 1x1x1.5cm. Cut surface of the tissue was grayish brown. Microscopic examination revealed an ill circumscribed lesion in the endo cervical stroma showing deposits of spindle or elongate cells with uniform small nuclei and scanty pink cytoplasm between the endo cervical glands. There was granular, fibrillar eosinophilic material between these spindle cells in the deposit. The endo cervical stroma was scanty and

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showed congested, dilated blood vessels and some small scattered endo cervical glands (**Figure 1**A,B,C). These elongate cell deposits were suspected to be glial tissue and Immunohistochemistry (IHC) stain was done to confirm the diagnosis. The immunohistochemistry stain Glial fibrillary acidic protein (GFAP) showed strong positivity in the spindle cells and the fibrillar material (**Figure 1**D). Another IHC stain Smooth muscle actin (SMA) was done to exclude Leiomyoma. This SMA stain was negative there by excluding the possibility of leiomyoma. Histopathological diagnosis of Glial tissue in the endo cervix presenting as polyp was made.

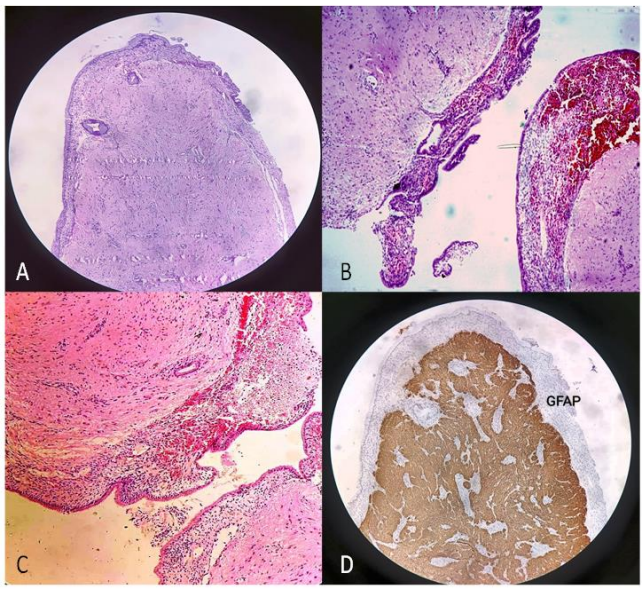

Figure 1: **A):** Shows endocervix with stroma having well circumscribed clusters of loosely scattered elongate spindle cells with small round nucleus. Cytoplasm is eosinophilic. There are endocervical glands in the stroma. (H&E 10X); **B and C):** High power view of the same to show foci of clear demarcation between the spindle cell clusters and the endocervical stroma. (H&E 20X); **D):** Glial fibrillary acidic protein (GFAP) stain to show the positive glial tissue clusters. (10X)

3. Discussion

Presence of glial tissue in the uterus is very rare. Glial tissue in the uterine cavity most commonly presents in the endo cervix followed by endometrium.[7] The usual presentation of this glial tissue is as a polyp in the endo cervix. Most of these polyps are very small in size and identified only on speculum examination. Hamperl et al described a case where the patient herself noticed a polyp on the external os.[8]

There are no symptoms specific for the gliomatosis in the cervix. Most of the complaints from the patients are non specific like inter menstrual bleeding, post coital bleeding or vaginal discharge.

Most of the patients in whom the glial tissue is seen in the cervix are multipara and they will have a history of one or more abortions and curettage of the uterine cavity. Some patients may not have any history of abortion or even pregnancy.[7]

Diagnosis of the gliosis in the endo cervix can be confirmed only by the histopathological examination of the resected tissue. This lesion has to be differentiated from other tumorous lesions like leiomyoma, lymphoma or a neuroectodermal tumor.

Immunohistochemistry (IHC) stain Glial fibrillary acidic protein (GFAP) is needed to confirm the presence of glial tissue in the endo cervical stroma. Origin of the glial tissue in the cervix is still not well understood. Some consider them to be the fetal neural tissue while others consider them to be metaplastic.[4-6] Many believe that the presence of the glial tissue in the uterus is the result of the implantation of the fetal central nervous tissue when pregnancy is interrupted. This hypothesis is supported by the frequent observation of the glial tissue located in the narrow endo cervical canal. This is a narrow part of the uterine cavity and the cervical mucosa is not regularly desquamated as in the corpus mucosa. Multifocal location of the glial tissue, arrangement of the glial fibrils around enclosed glands support the implantation hypothesis.[7]

Ferguson et al studied the genetic makeup of the glial tissue in patients with ovarian teratomas who also had peritoneal gliosis.[6] Their findings indicated that the glial implants in peritoneal gliosis were heterozygous and arose from cells within the peritoneum, presumably pluripotential mullerian stem cells and not from the associated ovarian teratoma. This ability of the pluripotential mullerian tissue to form glial tissue can be the leading mechanism in the development of glial tissue in the cervix and the endometrium.

In the present study this lady had two normal vaginal deliveries with the last delivery being thirteen years back. She did not have any history of termination of a pregnancy. This makes us to support the hypothesis of metaplasia for the gliosis in the cervix. Of course further large scale studies are needed to conclude the origin of this rare and interesting phenomenon.

4. Conclusion

A rare case of gliosis of the cervix presenting as a polyp is reported. IHC study confirms the presence of the glial tissue in the cervix. The exact cause of this glial tissue presence in the cervix is elusive.

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6. Conflict of Interest

No conflicts of interest.

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