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# Collision tumour-An unusual case report

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**ABSTRACT**

*A collision tumor is defined by the coexistence of two adjacent, but histologically distinct tumor components. One such rare case was encountered in our hospital in a post menopausal woman. In this case we present a collision tumor of papillary variant of endometrial adenocarcinoma with leiomyosarcoma. The unique morphology and immune histochemistry features are discussed.*

**Keywords:** Collision tumor, Endometrial adenocarcinoma, Leiomyosarcoma

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## INTRODUCTION

Collision tumor is considered as a multiple synchronous tumor in a single organ, because these components are separated from each other by stroma without histologic admixture .Collision tumors have been reported in various other organs such as esophagus, stomach, colon, lung ,skin, breast, ovary and uterus.[1].

Previously reported uterine collision tumors are mainly composed of two different histological component serous or endometroid adenocarcinoma, and sarcoma or neuro endocrine tumor.[1]. In this report we describe the clinicopathologic features of an unusual uterine collision tumor. The tumor is composed of two distinct histologic components, endometrial adenocarcinoma and leiomyosarcoma.

A 55 yr old patient para 4, live 4 complaining of pain abdomen and postmenopausal bleeding reported at Modern Government Maternity Hospital/ Osmania Medical College, Hyderabad , Andhra Pradesh, India.

Per abdomen revealed a uterus of 20 wks size. Per speculum showed cervical erosion on both lips. Ultra sonography revealed a bulky uterus with cystic degenerated area of 13x8 cm in posterior wall suggesting a degenerated fibroid. MRI pelvis and per operative findings were suggestive of multiple fibroids in the posterior wall of uterus.

Total Abdominal Hysterectomy was done and specimen was sent to the Department of Pathology, Gross findings were - uterus measuring 20x16x11 cm (Figure 1)


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**Figure 1: Uterus with multiple fibroids**

Cut section revealed endometrial cavity with irregular, fungating mass along with fish flesh like polypoid tumor mass measuring 14x12 cm with grey white & grey brown areas and necrotic areas. Cut sections of polypoid growth is solid & cystic. Myometrium shows multiple fibroids. .(Figure 2)

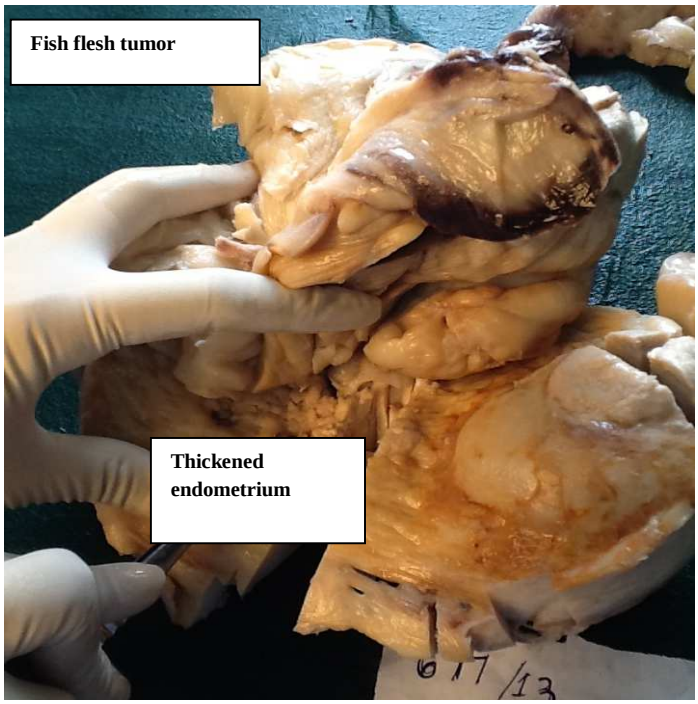


**Figure 2: Cut section showing thickened endometrium with fleshy polyp and fibroid**

## MATERIALS AND METHODS

The tissue was fixed in 10% formalin for processing. After gross analysis, representative sections were given for tissue processing .Sections were processed routinely with paraffin embedding and stained with haematoxylin and eosin. Immuno histochemistry was done for confirming the diagnosis.

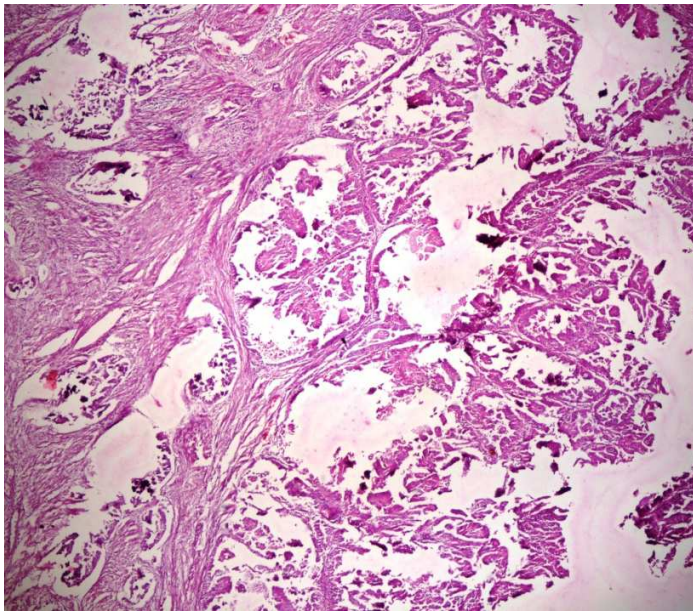

**Figure 3 : Papillary adenocarcinoma Endometrium – Endometroid type (10x H & E )**

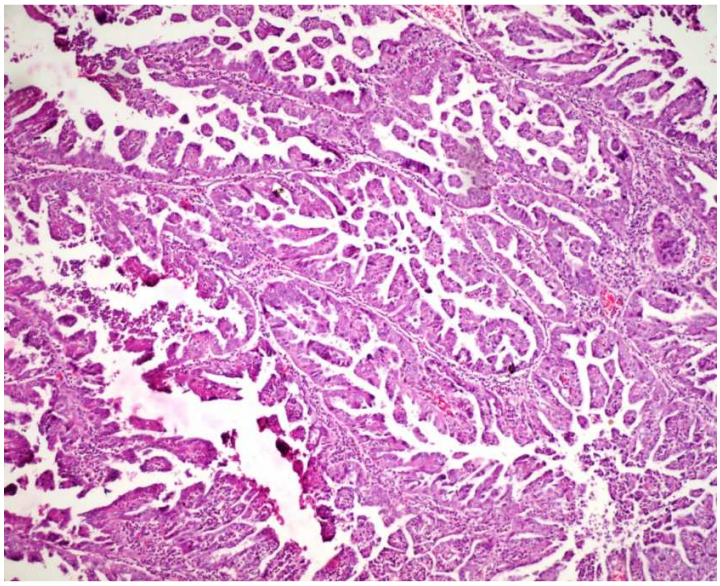

**Figure 4 : Papillary adenocarcinoma Endometrium – Endometroid type (40x H & E )**

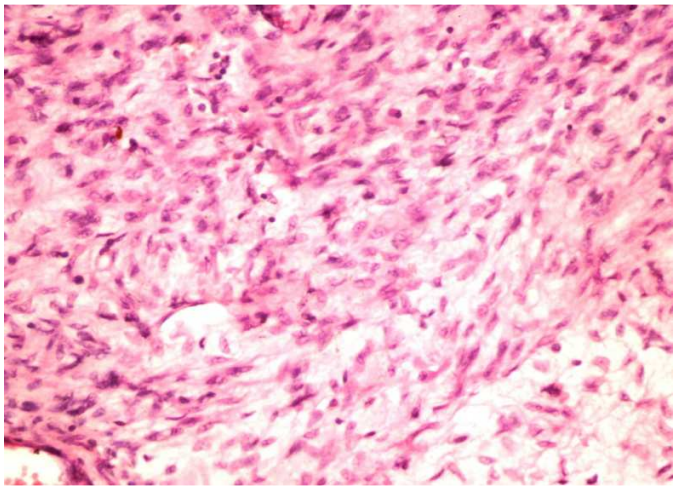

**Figure 5 : Leiomyosarcoma – Myometrium (10 x H & E)**

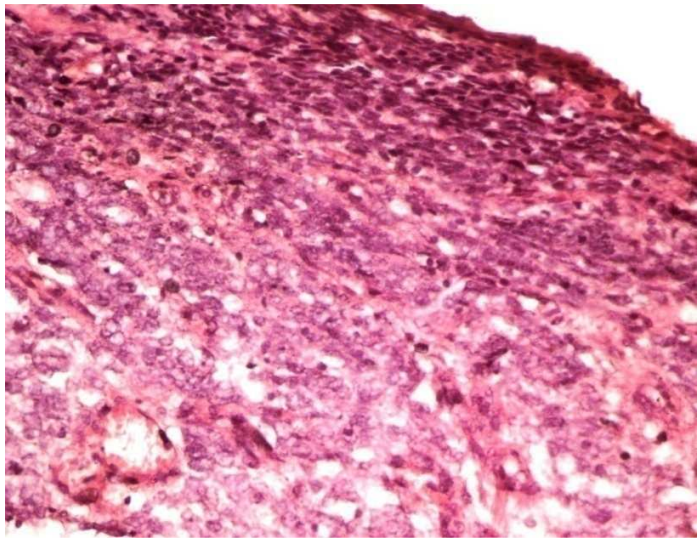

**Figure 6 : Leiomyosarcoma – Myometrium (10 x H & E)**

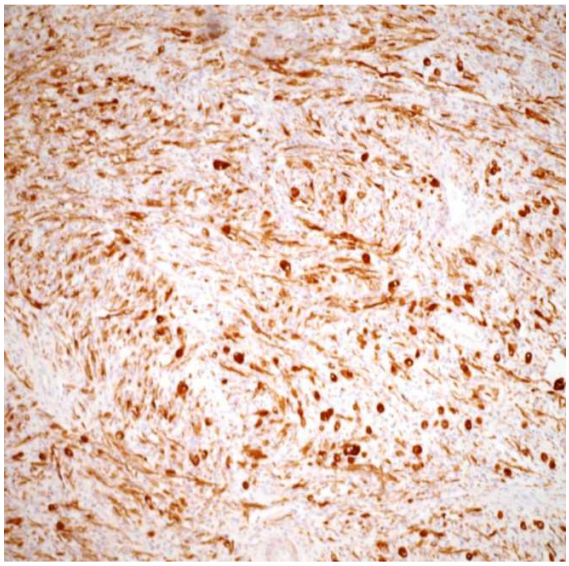

**Figure 7: DESMIN- Membranous & cytoplasmic Positivity (10 x H & E)**

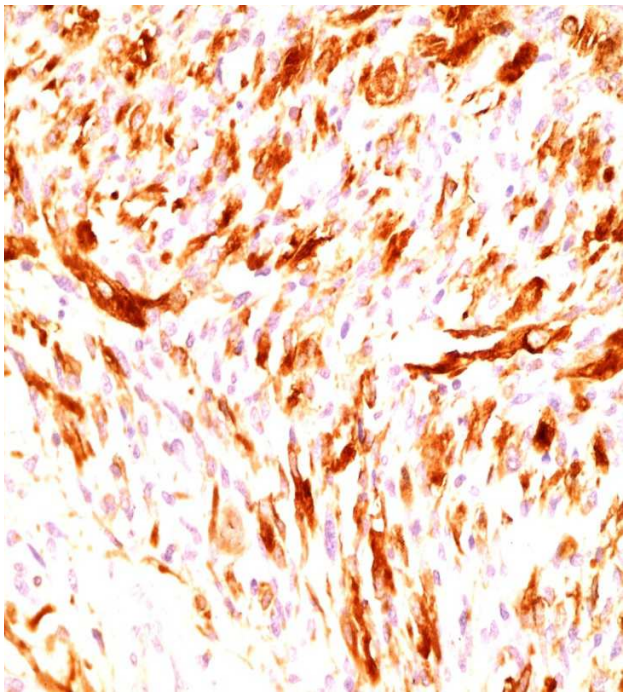

**Figure 8: DESMIN- Membranous & cytoplasmic Positivity (40 x H & E)**

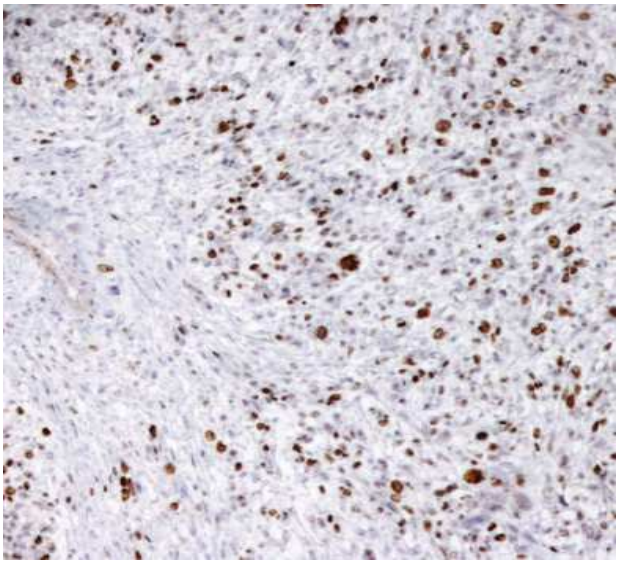

**Figure 9: KI 67- Nuclear Positivity (10 x H & E)**

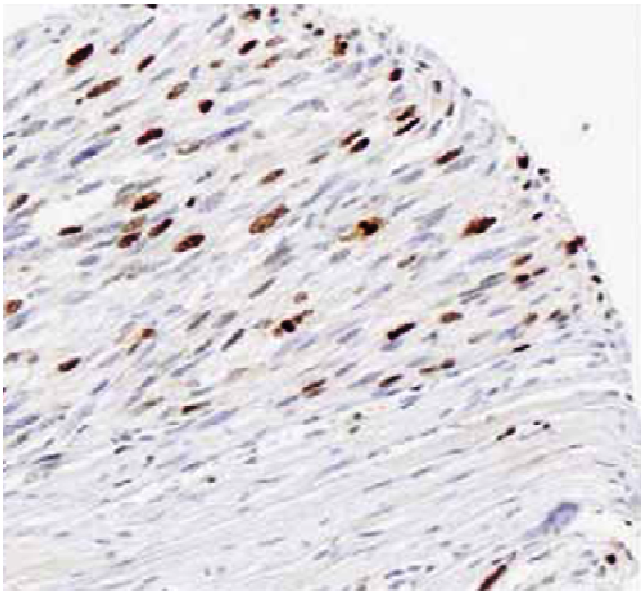

**Figure 10: KI 67- Nuclear Positivity (40 x H & E)**

An unusual diagnosis of Collision tumor – Uterus, Endometrium showing Papillary adenocarcinoma - Endometroid type and Myometrium showing leiomyosarcoma was done based on gross, histomorphology and immunohistochemistry (desmin, and Ki 67) findings.

## RESULTS AND DISCUSSION

Tumors with a combination of different histology are divided into two clinicopathologic groups collision or composite tumors. The collision tumor has more than two juxtapositioned masses and each mass displays a different histology. In a collision tumor, each mass has a distinct boundary and is separated by nonneoplastic stroma [1]. The present case has mass in the myometrium as a fibroid and endometrium is friable and thickened.

Reporting Incidence of collision tumors in literature is variable .Very few have demonstrated the invasion of only the sarcoma component into the myometrium, whereas the carcinoma component was confined to the endometrium. These cases had endometroid adenocarcinoma as the carcinoma component, which is known to have a good prognosis [2],as in our case.

Endometrial adenocarcinomas has histologic types (Ki-seok et.al) as follows:
Endometrioid adenocarcinoma-46.7% (Favourable prognosis**)**, Sarcomas-19%, Endometrial stromal, sarcomas-14.2%,Malignant mixed mullerian tumors-9.5% and smallcell hepatoid variant.

Invasive and metastatic components of collision tumors are supposed to be dependent on their biological behavior. High grade carcinomas such as serous and hepatoid carcinomas display myometrial invasion, whereas malignant mixed mullerian tumors are confined to endometrium. These pathologic findings suggest that each component of collision tumors occur coincidentally with no connection, and the biologic behaviour depends on their own tumor characteristics.[1].

Differential diagnosis of such collision tumors includes malignant mixed mullerian tumors.[3]

The preoperative diagnosis of collision tumor is difficult when these tumor components are closely located .In our case the radiological study could not discriminate the lesions. Only careful gross examination with Histopathological examination revealed the rare possibility, which was later confirmed with Immunohistochemistry.

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