

Case Report

Uterine Leiomyomatosis with Pure Cartilage Metaplasia - A Rare Entity

Siddaganga M¹, Vaishali P²

¹Consultant Pathologist, Medivision Hi Tech Diagnostic Center, Gulbarga, Karnataka-585104.

²Consultant Gynecologist, Medicare Multispecialty Hospital, Gulbarga, Karnataka-585104.

Corresponding author

Siddaganga Mangshetty

Email: siddagangamangshetty@yahoo.co.in

Abstract: Leiomyomas are benign and most common smooth muscle neoplasm that can occur in any organ most commonly in uterus, small bowel and esophagus. A spectrum of histological variants is noted and metaplasia in leiomyoma is very rare, while adipose metaplasia in leiomyoma is commonly noted. We present a case of pure cartilaginous metaplasia in leiomyoma which is a very rare phenomenon.

Keywords: Leiomyomatosis, Cartilaginous metaplasia and nulliparous.

INTRODUCTION

Leiomyomas are benign and most common smooth muscle neoplasm. They can occur in any organ most common being uterus, small bowel and esophagus. Common names for leiomyomas are fibroid, myoma, fibromyoma and fibroleiomyoma [1]. Leiomyoma of uterus is most common benign smooth muscle neoplasm and can occur as submucosal, intramural, or subserosal lesion. Leiomyoma predominantly affect women of reproductive age; they can be found in 20-30% of women in their fourth decade, and >40% of women in their fifth decade [3]. Grossly leiomyomas are well circumscribed lesions; they have white tan cut surface and sharply demarcated from adjacent myometrium. Microscopically, leiomyomas are composed of intersecting fascicles of closely packed cells with elongated nuclei and eosinophilic cytoplasm. Degenerative changes including hyaline change, coagulative necrosis, and hydropic degeneration are often present. However metaplasia in uterine leiomyoma is very rare. Few cases of adipose metaplasia (lipoleiomyoma) have been reported but cartilaginous metaplasia is very rare to occur, we are reporting a case of uterine leiomyomatosis with cartilage metaplasia.

Case History

A 45 year old nulliparous women had history of loss of appetite and pain abdomen since 2 years. On evaluation by a physician she was found to have multiple fibroid uterus with calcification on ultrasonography of abdomen (Fig.1). Hysterectomy was done and sent for histopathological examination.



Fig. 1: USG abdomen multiple fibroid with calcification

Gross and histopathology

Received bulky uterus with bosselated surface measuring 6x5x8cm, (Fig. 2) cut section shows multiple fibroid obliterating endometrial cavity. Cut section of fibroid had glistening gray white with whorled appearance and gritty sensation on cutting (Fig. 3). No area of necrosis or hemorrhage noted.



Fig. 2: Gross: hysterectomy specimen with bosselated surface (6x5x8cm) in diameter with congested blood vessels



Fig. 3: C/S Obliterated endometrial cavity with multiple leiomyomas measuring 12cm in largest diameter

Multiple gray white glistening areas with interspersed white areas. Multiple sections were taken. Microscopic examination of two leiomyomas revealed islands of mature hyaline cartilage covering >95% of mass, interspersed with intersecting fascicles of benign spindle cells with abundant cytoplasm (Fig. 4& 5).

A diagnosis of leiomyomatosis with cartilaginous metaplasia was done.

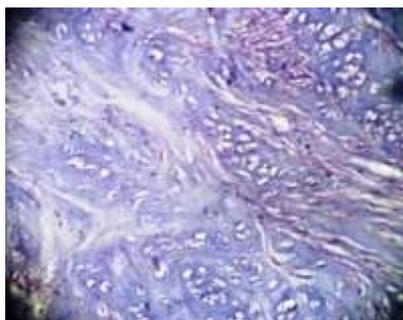


Fig. 4: Microscopy: (H&E x200) mature hyaline cartilage interspersed with fascicles of spindle cells

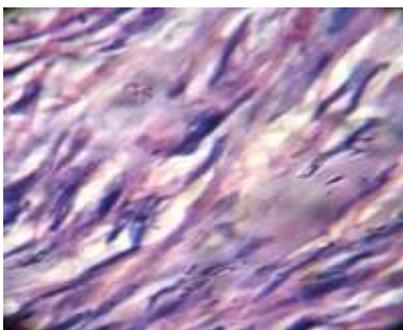


Fig. 5: Microscopy: (H&E x200) spindle cells with elongated nuclei with abundant eosinophilic cytoplasm.

DISCUSSION

A uterine leiomyomas is a benign smooth muscle tumor that originates from myometrium. Leiomyomas are often multiple designated as leiomyomatosis if they are many in number. These benign tumors are typically found during reproductive years. These leiomyomas are associated with many risk factors like menarche, diet,

age, obesity and parity (an inverse relationship between parity and the risk of leiomyomas. A relative risk of fibroids among parous women is 0.5 compared to nulliparous women [4] as we see in our case.

They tend to enlarge during pregnancy because they express estrogen and progesterone receptors [5]. Yamadori *et al.* reported a case of leiomyoma with cartilaginous differentiation which was seen along with adipose tissue metaplasia. Our case of cartilaginous metaplasia in leiomyomas is second case to be reported till date, to best of our knowledge. Metaplasia is reversible and usually occurs in response to chronic irritation and inflammation and allows for substitution of cells that are better able to survive under circumstances in which a more fragile cell type might succumb.

Cause for cartilage metaplasia is not known, some author proposed that metaplasia does not result from a change in the phenotype of a differentiated cell type; [6] instead it is the result of a reprogramming of stem cells that are known to exist in normal tissues, or of undifferentiated mesenchymal cells present in connective tissue. In a metaplastic change, these precursor cells differentiate along a new pathway [7].

These metaplastic changes do not have malignant potential. Metaplasia is not synonymous with dysplasia and is not considered as directly carcinogenic. But lead to consideration of differential diagnosis of other mesenchymal tumors which show heterologous mesenchymal elements.

Numerous degenerative changes can be seen in leiomyomas commonest are hydropic, red degeneration and coagulative necrosis. Also seen few metaplasias common being lipomatous known as lipoleiomyoma [8]. But cartilaginous metaplasia of leiomyomas of soft tissue is common but uterine leiomyomas with cartilaginous metaplasia is very rare phenomenon.

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