



**ABNORMALLY RAISED CA125 IN A PATIENT OF LUMP IN ABDOMEN, DILEMMA  
IN DIAGNOSIS**

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**ABSTRACT**

A 42 years old woman presented with a lump in abdomen that caused abdominal protuberance also complained of menorrhagia and stress urinary incontinence. Ultrasonography revealed a 15x14x13 cm mass developed from her uterus. Her cancer antigen 125 (CA125) serum level at presentation was 4,321 U/mL and lactate dehydrogenase (LDH) level was 487 U/L. The suspicion was of a malignant neoplasm, so we undertook an exploratory laparotomy. Intraoperatively multiple uterine fibroids were noted, ovaries found to be normal. Frozen section sent, suggestive of leiomyoma. The pathologic diagnosis was a leiomyoma of the uterus. Both the Cancer Antigen125 and Lactate Dehydrogenase serum levels dropped unusually rapidly to normal after the operation. Usually with such high levels of Cancer Antigen 125 in association of abdominal mass suspicion of ovarian pathology is made but very rarely as in this case, uterine pathology may present with such abnormally raised levels of Cancer Antigen 125.

**KEYWORDS:** CA125, Uterine leiomyoma, Lower abdominal lump.

**INTRODUCTION**

CA 125 is a surface antigen on a high molecular weight glycoprotein recognised by monoclonal antibody. It is most useful marker for non mucinous ovarian epithelial cancer. Uterine leiomyoma is a common gynaecological disorder, and it is said that 40-60 % of women of reproductive age will at some point have one. Although high levels of tumour markers are often found in benign gynaecological disease, it does not appear that leiomyoma have previously been associated with specific tumour markers. We now report a case of a leiomyoma with markedly elevated levels of cancer antigen CA 125 prior to surgery.

**CASE REPORT**

A 42 year old female presented with complaints of lump in abdomen since 4 years, heavy menstrual bleeding with passage of clots since 2 years and increased frequency of micturition with involuntary leakage of urine since last one year. Lump was just felt abdominally when first noticed but since last two years it rapidly increased to present size.

**Past history** –Patient had history of hemi thyroidectomy done 14 year back in view of multinodular goitre.

**On examination-** Vitals stable.

**Per abdomen-** Abdominopelvic mass corresponding to 24 week pregnancy felt, it was pear shaped, hard in consistency, nontender, lower border can't be reached, mobile side to side. Genuine SUI demonstrated.

**Pelvic examination-** 22-24 week size mass, cervical movement transmitted, left fornix obliterated, right fornix free.

USG showed multiple uterine fibroids the largest being 15x14x13 cm in dimensions and subserosal in location.

MRI was done to follow the course of ureter in relation to this very large mass, results were same as USG and suggestive of mass effect.

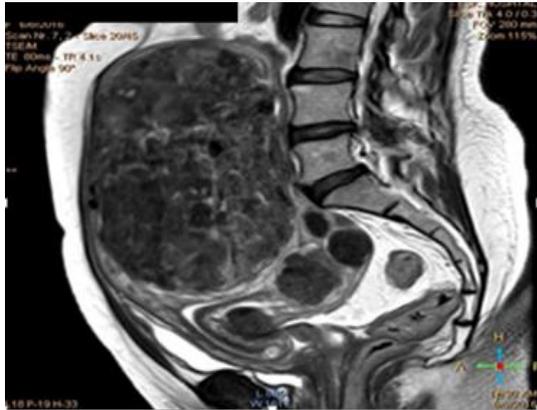
Tumour markers were sent in keeping with the norm for all abdominal lumps, CA 125(4231U/ml) found to be abnormally raised, LDH (487 IU/L) was also raised.

Patient underwent total abdominal hysterectomy with Burch colposuspension, intraoperative ovaries were found to be normal, histopathological diagnosis was leiomyoma of uterus. After hysterectomy elevated serum CA 125 levels began falling steadily and dropped to normal level within a month following surgery.

**Investigations**

1. ULTRASONOGRAPHIC FINDINGS:

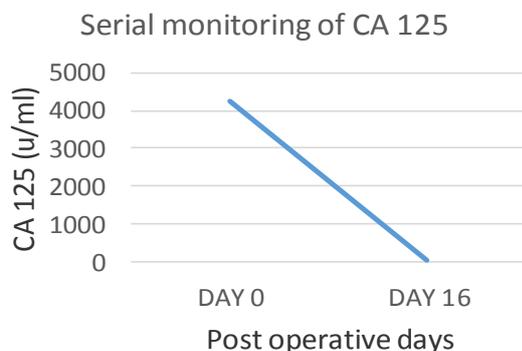
Large mixed echogenic anterior subserosal fibroid of size 15.7x14.2x13.4 cm. Another similar fibroid measuring 4.2x4.3 cm seen in posterior wall.



**Figure 1: MRI: A large heterogeneous mass lesion with multiple T1, T2 hypointense lesions of various sizes interspersed by multiple thin T2 hyperintense septations is seen involving the fundus and entire anterior wall of uterus.**

The pathologic diagnosis was of a non-malignant leiomyoma of the uterus. The hematoxylin eosin (H&E) staining appearance of the tumour was of a typical leiomyoma.

After the total abdominal hysterectomy, her elevated serum CA125 level began falling, and dropped to a normal level within 1 month. Her CA125 level has not re-elevated.



**Figure 2: The serum CA125 level fell from 4231U/mL at presentation, to normal level (18.87 U/ml) within one month of surgery.**

## DISCUSSION

Uterine leiomyoma's are common benign tumours originating from uterine smooth muscle and affecting 60 to 80% of women at their reproductive age.<sup>[1]</sup> About one fifth of leiomyoma's are symptomatic and may require treatment.<sup>[2]</sup> They are most commonly diagnosed with ultrasonography and magnetic resonance imaging (MRI). However, currently no serum biomarker is capable of differentiating and monitoring uterine leiomyoma's.<sup>[3]</sup>

CA 125 is associated with many conditions. Association with leiomyoma's is rarely reported. In the present case the patient had unusually large leiomyoma and serum CA 125 was abnormally high 4231 U/ml at first consultation. It dropped down to 18.8 U/ml sixteen days after surgery. Most leiomyoma's show normal CA 125 levels. Hardly any patients with such reports were published. It was found that factors related to high levels of CA 125 in patients with leiomyoma are large size (> 5 cm), subserosal location and coexistence of adenomyosis. Bischof et al also found that large leiomyoma size was strongly associated with higher CA 125 levels. CA 125 may be originating from the peritoneum stretched over the enlarged uterus.<sup>[4]</sup>



**Figure 3: Intra operatively multiple subserosal fibroids in anterior wall of uterus noted.**

An elevated serum LDH level is often associated with cases of leiomyosarcoma.<sup>[5]</sup> Increased serum CA125 level is associated with ovarian, uterine, breast, pancreas, colon, and lung cancers, also endometriosis, adenomyosis, leiomyoma, benign ovarian tumour, hepatic cirrhosis, pleuritis, pericarditis, peritonitis, ascites retention, early pregnancy, and menstrual period.<sup>[6-11]</sup> Leiomyoma's are not normally closely associated with any specific tumour markers, although a study by Babacan et al found an increase in several tumour markers in association with uterine leiomyoma's.<sup>[12]</sup>

The serum CA125 level dropped rapidly, from 4,231 U/mL at first consultation to 18.87 U/mL by the 16th day following the operation. Considering that the normal half-life of CA125 in serum is about 5 days<sup>[13]</sup>, the CA125 decline appeared to have occurred quickly. The reason why the CA125 level might have been spontaneously dropping is unknown. In the present case, the leiomyoma clearly was producing the elevated CA125, although the mechanism of the CA125 production by the tumour is also unexplained.<sup>[14]</sup>

After the hysterectomy, without the leiomyoma, the serum CA125 level was never elevated again. In the literature, there are very few previous findings of production of CA125 by a leiomyoma

**CONCLUSION**

Markedly raised CA125 in leiomyoma's being rare, hardly any references are available in literature. Clinicians are encouraged to be aware of this remote possibility when considering differential diagnosis of abdominal lumps in preoperative period.

MRI continues to be the gold standard investigation. Suitable arrangements for surgery can thus be made. '*Forewarned is forearmed*'. Clinicians are encouraged to publish such cases to increase awareness.

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