

## Luteoma of Pregnancy: A Rare Case Report

Reeta Dhar<sup>1</sup>, Priyanka Gaikwad<sup>2</sup>, Jyotsna Sahai<sup>3</sup>, Shilpi Sahu<sup>4</sup>

<sup>1</sup>Professor, <sup>2</sup>Junior Resident, <sup>3</sup>Junior Resident, <sup>4</sup>Professor  
Department of Pathology, MGM Medical College, Navi Mumbai.

Corresponding Author: Priyanka Gaikwad

### ABSTRACT

Pregnancy luteoma is non-neoplastic ovarian mass occurring during pregnancy and discovered incidentally at the time of surgery. Luteoma of pregnancy mimics other ovarian malignancies so accurate diagnosis is very important to avoid unnecessary surgery. We present a 29 year pregnant female who had undergone an emergency caesarean section for fetal distress and incidentally during the surgery a subserosal fibroid like mass was discovered, excised and sent for histopathological examination. Microscopic examination showed features of luteoma of pregnancy.

**Keywords:** Luteoma, Pregnancy, Ovary

### INTRODUCTION

Pregnancy luteoma is a rare hormone dependent non-neoplastic hyperplastic tumour like lesion of ovary and it was first described by Sternberg in 1963. <sup>(1)</sup> Most of the times the luteomas are asymptomatic and are discovered incidentally while the patient undergoes surgery for caesarean section or postpartum tubal ligation. <sup>(2)</sup> Maximum number of these cases is resolved completely within a few weeks of delivery. <sup>(3)</sup>

Pregnancy luteoma mimics like ovarian malignancy therefore accurate diagnosis is very important to avoid unnecessary surgery. <sup>(4)</sup> Exact etiology of luteoma is not clear but it is hypothesized that luteomas may arise from pre-existing luteinised stromal cells which shows exaggerated response when the levels of gonadotropin are high during pregnancy. <sup>(3)</sup> High androgen levels are seen in 25% of women with pregnancy luteomas, out of this 10-50% will show clinical signs of hyperandrogenism and 60% to 70% female

infants born to masculinised mother will show some degree of virilization. <sup>(5)</sup>

### CASE REPORT

A 29 year old primigravida known case of PIH underwent an emergency caesarean section for fetal distress, delivery was uneventful. Intraoperatively subserosal fibroid was found. It was excised and was sent for histopathological examination. On gross examination we received two grey white, soft to firm tissue masses measuring 3x2x1.5cm and 3x 2x1 cm. respectively. Microscopically hematoxylin and eosin stained sections studied show a well encapsulated lesion with nodular areas comprising of sheets of theca lutein cells which are round to oval to polygonal bearing regular round vesicular nuclei in center. The cytoplasm is abundant, pinkish and granular with few showing clearing. Scanty stroma composed of thin fibrous septae, congested and dilated blood vessels along with mixed inflammatory infiltrates. Also at one focus normal muscle bundle were seen.

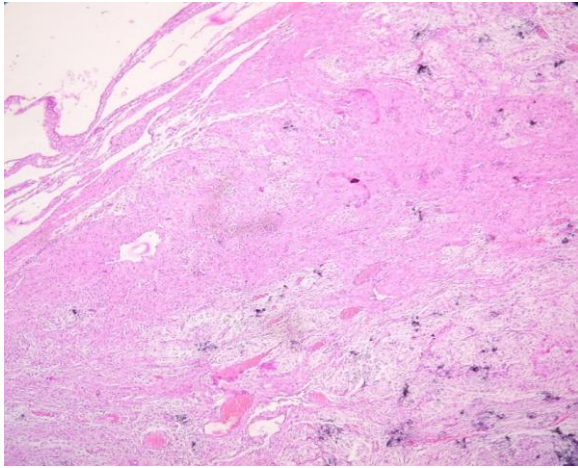


Fig 1. Hematoxylin-Eosin scanner view: Well circumscribed lesion

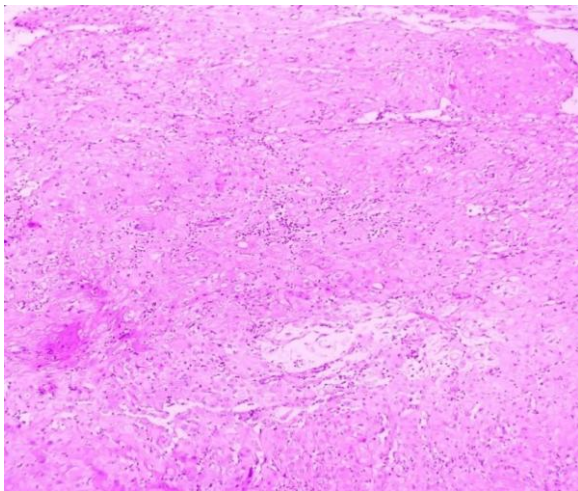


Fig 2: Haematoxylin-Eosin 10x view: cells arranged in monolayer sheets, cords and small clusters.

containing colloid like material. Individual cells have abundant, eosinophilic, fine granular cytoplasm with slightly pleomorphic and hyperchromatic nuclei. (2) 25% of cases show hormonally active luteomas which results in androgen secretion causing maternal virilisation and hirsutism. (5) Maternal hirsutism leads to virilisation of female fetus resulting in clitoral enlargement and ambiguous genitalia, male fetus do not show any changes. (4)

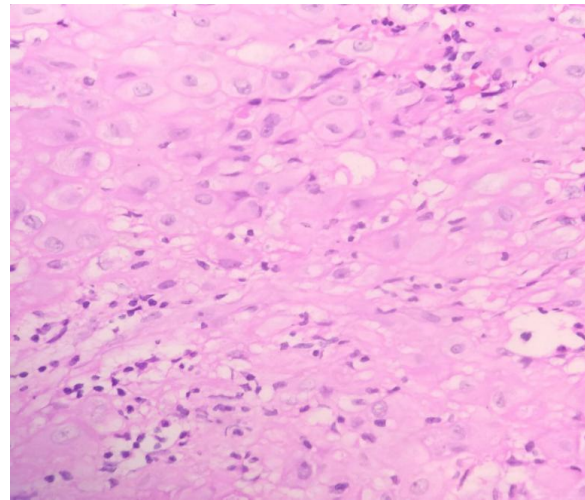


Fig 3: Haematoxylin-eosin 40x view: Polygonal cells with abundant, eosinophilic, fine granular cytoplasm, mild pleomorphism and prominent nucleoli.

## DISCUSSION:

Pregnancy luteoma is rare benign lesion which mimic as ovarian malignancy usually occurring during pregnancy. (6) It begins to resolve spontaneously within few weeks after delivery, as the serum androgen levels falls rapidly and reaches normal concentration within 2 weeks postpartum. (7) The ovarian lesion shows variability in size ranging from microscopic to as large as 20cm in diameter. (6) Large luteomas can also cause torsion thus resulting in symptoms like abdominal pain. (4) On cut section these lesions are well circumscribed, solid, soft, yellow brown to tan coloured with dark haemorrhagic foci. (1) Microscopically pregnancy luteomas are well circumscribed nodules comprising of polygonal cells arranged in sheets, cords, small clusters or follicular patterns

The differential diagnosis includes granulose cell tumors, Sertoli Leyding cell tumors, unclassified sex cord stromal tumors, Leyding cell tumor, stromal hyperthecosis, stromal luteomas and hyperreactio leuteinalis. Pregnancy luteomas are solid in nature thus making it difficult to differentiate from other solid tumors such as leutenized thecoma, granulose cell tumor and Leyding cell tumor. (4) During third trimester of pregnancy maternal circulating testosterone levels increase up to 7 times the normal range., and this physiological condition does not cause any virilisation. In case of pregnancy luteomas or hyper reactioluteinalis virilisation is seen during pregnancy, but in our case patient did not show virilisation and so hormone studies were not done. Post delivery the serum

gonadotropin levels return back to normal levels in 2 weeks.

### CONCLUSION

During pregnancy there is altered hormonal environment causing increase level of testosterone. Pregnancy luteoma which arises from the luteinised stromal cells show an exaggerated response to such high levels of gonadotropins. In post-partum phase, the levels of gonadotropins decrease and the luteoma resolves, therefore it must always be considered as a part of differential diagnosis of ovarian masses during pregnancy, as the line of treatment is completely different and unnecessary surgery can be avoided.

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