

METASTATIC LUNG CANCER IN PREGNANCY PRESENTING AS TYPE 1 RESPIRATORY FAILURE “A DIAGNOSTIC AND MANAGEMENT DILEMMA”



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INTRODUCTION

- ✚Cancer diagnosis and treatment in pregnancy is a challenging situation for obstetricians.
- ✚Lung cancer represents a rare tumor during pregnancy (only few cases reported in literature).
- ✚ Non-small cell lung carcinoma is the commonest type accounting for 80 to 85% of all gestational lung cancer.[1]
- ✚Most of the cases diagnosed are in advanced clinical stage (III-IV) probably indicating aggressive course during pregnancy. Diagnosing such cases and its management is a real task requiring a delicate balance between maternal benefit and foetal risk.
- ✚Delayed marriages, delay to start family & smoking increases the coexistence of gestational cancer during pregnancy.

CASE REPORT

- ✚We report a case of a 30-year-old female G2P1L1 at 28 weeks of gestation, who presented with complaints of cough and breathlessness of one-month duration.
- ✚Patient was non-smoker with unremarkable past medical history or any family history.
- ✚On Physical examination she was tachypnoeic, with reduced breath sounds on auscultation.
- ✚ On initial workup ABG showed features of Type I respiratory failure and CXR showed bilateral infiltration.
- ✚Ultrasonography of the chest showed bilateral pleural effusion with low-level echoes suggestive of haemothorax.
- ✚Diagnostic as well as therapeutic pleural fluid tapping done, suggestive of low ADA exudative fluid with negative for AFB and cytology revealed presence of atypical cells.
- ✚On consultation with oncologist Immunohistochemistry (IHC) of pleural fluid cell block showed cells positive for BerEp4, CK7 & TTF1 confirming metastatic adenocarcinoma possibly of pulmonary origin. (Fig).On further workup Ultrasound neck showed bilateral cervical lymph nodes suggestive of? Mets followed by FNAC of neck nodes suggestive of adenocarcinoma. Bronchoscopy done suggestive of multiple nodules in right upper airway ? Malignant.



HISTOPATHOLOGY FINAL DIAGNOSIS PANEL
(Immunohistochemistry)

IHC MARKER(S)	RESULT
Calretinin	Non-immunoreactive in lesional cells, highlight mesothelial cells
Ber Ep4	Immunoreactive score 3+ in lesional cells
PAX-8	Non-immunoreactive in lesional cells
TTF-1	Immunoreactive score 3+ in lesional cells
WT-1	Highlight mesothelial cells

- ✚Considering the advanced clinical stage of the disease in the mother, an alive baby girl was delivered by caesarean section at 34 weeks of gestation with birth weight of 1.9 kg with Apgar score of 7,8. .
- ✚Postpartum, the patient was started on chemotherapy and targeted therapy by oncologists in view of positive testing for anaplastic lymphoma kinase (ALK) fusion protein.

DISCUSSION

- ✚Lung cancer is the leading cause of cancer-related death worldwide.
- ✚Recent findings of genetic alteration, including of epidermal growth factor (EGFR) and anaplastic lymphoma kinase (ALK), have brought fundamental changes in survival benefit to certain populations of patients affected with lung cancer.
- ✚Hence genetic testing is essential with proven significance in young pregnant females with lung cancer and treatment with tyrosine kinase inhibitors should be initiated.
- ✚We found 59 reports of lung cancer in pregnant women in the English literature. Among these, there were two reports of cancer harboring ALK fusion protein (2,3) and five of cancer harboring EGFR mutation (4,5).
- ✚In our case due to advanced maternal disease further examination and treatment of mother was postponed till fetus delivered safely at 34 weeks followed by initiation of chemotherapy in postpartum period.

CONCLUSION

To conclude, it is emphasized lung cancer during pregnancy is becoming an emerging issue requiring multidisciplinary teamwork of gynecologist, oncologist, and pathologist for better patient outcome.

REFERENCES

1-Mitrou S, Petrakis D, Fotopoulos G, Zarkavelis G, Pavlidis N. Lung cancer during pregnancy: A narrative review. J Adv Res. 2016 Jul;7(4):571-4.
2-Soares A, Dos Santos J, Silva A, Magalhães H, Estevinho F, Sottomayor C. Treatment of lung cancer during pregnancy. Pulmonology. 2020 Sep-Oct;26(5):314-317.
3-Komura M, Yagishita S, Nakamura K, Arano N, Takeshige T, Muraki K, Nagashima O, Izumi H, Tomita S, Sasaki S, Takahashi K. A Case of a Pregnant Woman Diagnosed as Having ALK-rearranged Lung Adenocarcinoma. In Vivo. 2018 Sep-Oct;32(5):1205-1209.
4-Han X, Yang H, Zhang Y, Ma X. Three cases of lung cancer in pregnancy and literature review. Ann Palliat Med 2020;9(4):1928-1936.