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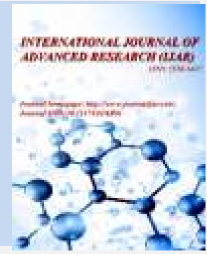

RESEARCH ARTICLE

LUNG CANCER DURING PREGNANCY: A CASE REPORT

Moullablad Fatima Zahra[1], Mouha Douae[1], Jihane Jaouani[1] , Fatima El Allam[1], Mohamed Lakhal[1], Sara Gartini[1], Meriem Rhazari[1], Afaf Thouil[1,2] Hatim Kouismi[1,2] and Ahmed Mimouni[1,2]

1. Department of Respiratory Diseases, Mohammed VI University Hospital, Faculty of Medicine and Pharmacy of Oujda, Mohammed First University, Oujda, Morocco.
2. Department of Obstetrics and Gynecology – Mohammed VI University Hospital , Faculty of Medicine and Pharmacy of Oujda, Mohammed First University, Oujda, Morocco.
3. Research and Medical Sciences Laboratory, Faculty of Medicine and Pharmacy of Oujda, Mohammed First University, Oujda, Morocco.

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Abstract

Lung cancer during pregnancy is a rare condition associated with significant diagnostic and therapeutic challenges. We report the case of a 44-year-old woman at 36 weeks and 4 days of gestation who presented with progressive dyspnea, dry cough, and night sweats evolving for eight months. Chest CT revealed a locally advanced left pulmonary mass with bilateral pleural effusions and carcinomatous lymphangitis. Histopathological examination of a pleural biopsy confirmed pulmonary adenocarcinoma. Following multidisciplinary discussion, labor was induced, resulting in an uncomplicated delivery, and palliative chemotherapy was initiated postpartum. This case highlights the risk of delayed diagnosis due to the overlap between cancer-related symptoms and physiological changes of pregnancy, emphasizing the importance of early investigation of persistent respiratory symptoms.

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Introduction:-

Cancer occurring during pregnancy is rare, and bronchopulmonary cancer represents a particularly uncommon location. However, its incidence appears to be increasing due to rising tobacco use among young women and the delayed age at first pregnancy. Diagnosis may be delayed, as respiratory symptoms are often attributed to the physiological changes of pregnancy.

Case report:

A 44-year-old woman, at 36 weeks and 4 days of gestation, with a history of spontaneous miscarriage and exposure to passive smoking due to her husband's tobacco use, was admitted for evaluation of progressive dyspnea associated with a dry cough and night sweats evolving over the past eight months. These symptoms were initially attributed to pregnancy, resulting in a delayed diagnosis. Clinical examination revealed a left pleural effusion syndrome associated with lower limb edema.

Corresponding Author:-Moullablad Fatima Zahra
Address:-Department of Respiratory Diseases, Mohammed VI University Hospital, Faculty of Medicine and Pharmacy of Oujda, Mohammed First University, Oujda, Morocco.

Chest CT angiography demonstrated a locally advanced proximal left pulmonary mass, associated with carcinomatous lymphangitis, bilateral pleural effusion, and pericardial effusion. Therapeutic thoracentesis drained 1000 mL of exudative pleural fluid. Histopathological examination of the pleural biopsy confirmed a diagnosis of bronchopulmonary adenocarcinoma. Given the advanced gestational age, a multidisciplinary decision was made to induce labor, resulting in an uncomplicated delivery. In the postpartum period, staging work-up was performed and, following discussion at a multidisciplinary tumor board, a palliative approach with systemic chemotherapy was initiated.

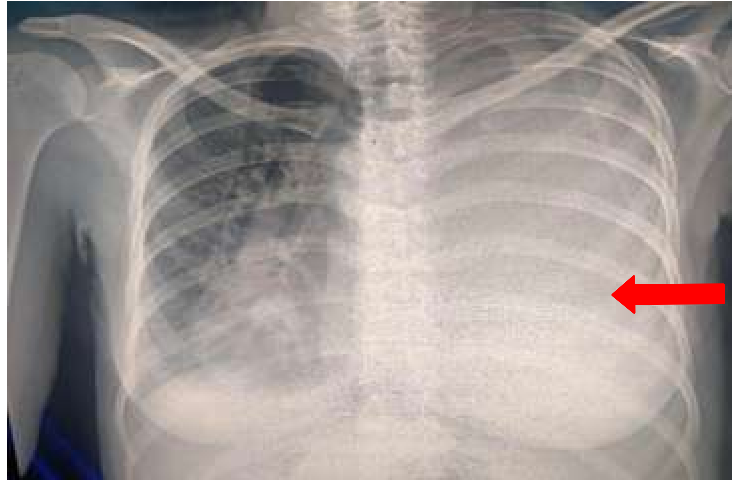

Figure 1:
A chest radiograph revealed a massive left pleural effusion resulting in near-complete opacification of the left hemithorax.

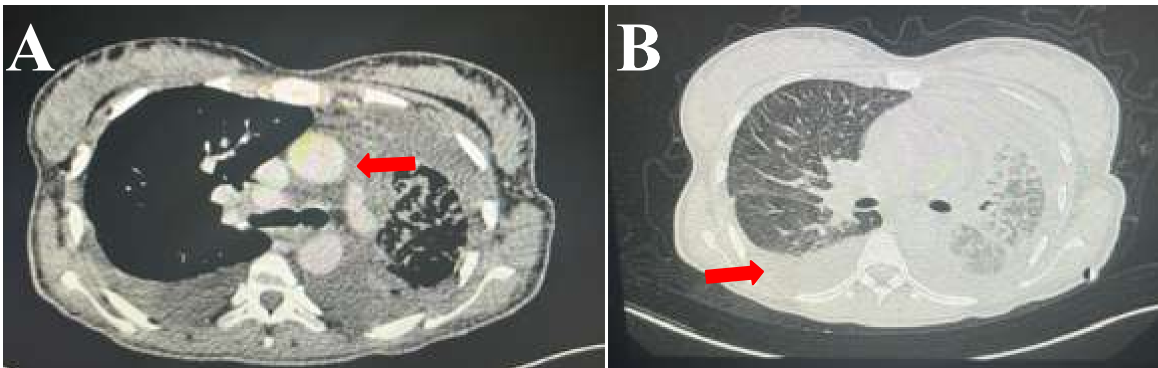

Figure 2:
Figure. Axial chest CT scans in the mediastinal (A) and parenchymal (B) windows demonstrating a left-sided pulmonary mass (red arrow) associated with bilateral pleural effusions.

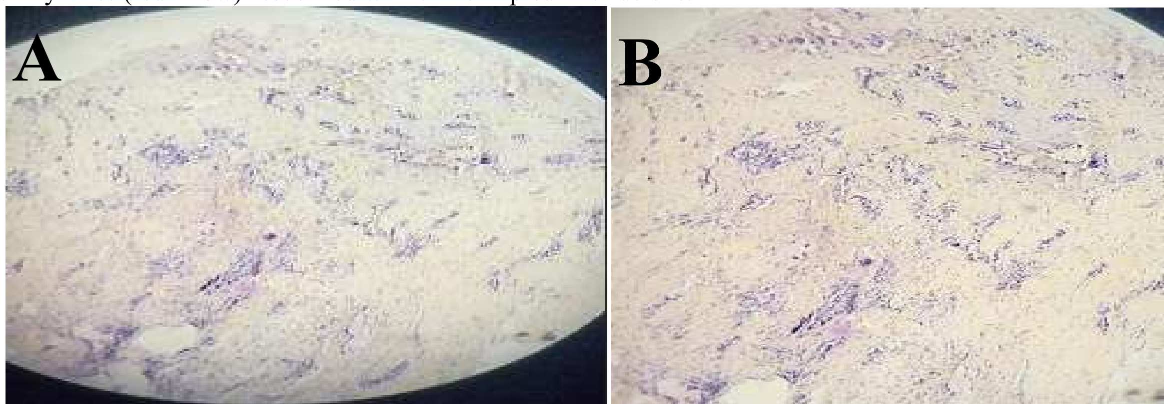

Figure 3:
Histological section showing a carcinomatous tumor proliferation arranged predominantly in trabecular and cord-like patterns, as well as in isolated single cells. The tumor cells exhibit marked cytological and nuclear atypia, with enlarged nuclei and irregular nuclear contours. Immunohistochemical study demonstrates tumor cell positivity for CK7 and TTF-1.

Discussion:-

Lung cancer during pregnancy is exceptional and is usually reported through individual case reports, which may underestimate its true incidence, estimated between 0.07% and 0.1% [1]. The majority of cases are non–small cell lung carcinoma (NSCLC), while small cell lung cancer, which is less common, is characterized by an aggressive course and rapid development of metastases [2, 3]. smoking remains the principal risk factor, with approximately 20–30% of pregnant smokers continuing tobacco exposure during gestation. Nevertheless, other etiological factors are implicated, including activating mutations of the epidermal growth factor receptor (EGFR), more commonly identified in non-smoking females, as well as hormonal influences. Estrogens are thought to exert a pro-carcinogenic effect, whereas progesterone appears to have an anti-proliferative role by inhibiting cellular proliferation [2, 3].
Lung cancer remains associated with a poor prognosis, and its occurrence during pregnancy raises significant diagnostic challenges. The physiological and clinical changes of pregnancy may delay diagnosis, leading to detection at more advanced stages compared with non-pregnant patients. This delayed presentation complicates management and may adversely affect both maternal and fetal outcomes [4].

The delayed diagnosis of lung cancer in pregnant women can be mainly explained by two factors. First, common pregnancy-related symptoms such as nausea, fatigue, dyspnea, or dry cough may mask an underlying malignant process and therefore be overlooked. Second, reluctance to perform diagnostic imaging due to concerns about radiation exposure may further delay essential investigations. However, when appropriate abdominal shielding with a lead apron is used, the radiation dose received by the patient remains very low and well below the accepted safety threshold during pregnancy [5]. Bronchoscopic sampling and ultrasound-guided lymph node biopsies are the preferred diagnostic procedures whenever feasible. Computed tomography (CT)-guided biopsy represents an alternative approach, taking into account the additional ionizing radiation exposure, which is generally low. Histological sampling requiring general anesthesia may also be performed when necessary, provided that the institution has appropriate facilities for fetal monitoring. In our patient, the histological diagnosis was established by pleural biopsy.

Lung cancers are primarily divided into two types. Small cell lung cancer is highly aggressive and often has metastasized by the time of diagnosis. It responds well to chemotherapy and radiation therapy, with chemotherapy being the primary treatment. Non-small cell carcinomas are less responsive to chemotherapy and radiation therapy. When possible, their management relies primarily on surgery. [6]. Termination of pregnancy generally does not improve maternal prognosis in the setting of cancer. Chemotherapy administered during the first trimester is associated with an increased risk of spontaneous miscarriage, fetal death, and major congenital malformations. Therefore, it is preferably deferred until the second trimester, although it may still be associated with intrauterine growth restriction and low birth weight. The management of lung cancer during pregnancy is not standardized, unlike that of breast cancer. Available data remain limited; only a small number of patients have been treated with chemotherapy or radiotherapy. Radiotherapy may be safely administered for palliative indications, provided that the fetal radiation dose remains below the critical threshold [4].

Conclusion:-

The occurrence of lung cancer during pregnancy, in the postpartum period, or within the months following delivery represents a particularly challenging clinical situation, in which maternal and obstetric concerns intersect with a life-threatening disease. This underscores the crucial importance of preventive strategies, particularly smoking cessation, given that tobacco exposure remains the leading risk factor. Furthermore, early diagnosis relies on a thorough clinical history and careful physical examination and should be supported, when indicated, by appropriate complementary investigations, including imaging studies, in the presence of atypical or persistent respiratory symptoms.

References:-

1. Nicholas Pavlidis. Editorial, Lung cancer during pregnancy: An emerging issue. Lung Cancer. 2008;59(3):279–81. doi: 10.1016/j.lungcan.2007.10.010. [DOI] [PubMed] [Google Scholar]
2. Mazières J, Rouquette I, Brouch L. Bronchial cancer in women and pregnant women: toward a hormonal origin? Rev Mal Respir. 2007;24(8):983–97. doi: 10.1016/s0761-8425(07)92763-1. [DOI] [PubMed] [Google Scholar]
3. Kerjouan M, Jouneau S, Corre R, Le Ho H, Pracht M, Léna H, Desrues B. Bronchial cancer in pregnant women: diagnostic and therapeutic management in 2012. Rev Mal Respir. 2013;30(2):125–36. doi: 10.1016/j.rmr.2012.11.003. [DOI] [PubMed] [Google Scholar]
4. Alberto Zambelli, Gian Antonio Da Prada, Vittorio Fregoni, Luisa Ponchio, Paola Sagrada, Lorenzo Pavesi. Erlotinib administration for advanced non-small cell lung cancer during the first 2 months of unrec
5. Harpold TL, Wang MY, McComb JG, Monforte HL, Levy ML, Reinisch JF. Maternal lung adenocarcinoma metastasizing to the scalp of a fetus. Case report. Pediatr Neurosurg 2001;35:39-42.
6. Hatem A. Azim Jr., Fedro A. Peccatori, Nicholas Pavlidis. Lung cancer in the pregnant woman: To treat or not to treat, that is the question. Lung Cancer 67 (2010) 251–256.