CASE REPORT

Well-differentiated fetal adenocarcinoma: A very uncommon malignant lung tumor

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KEYWORDS
Well-differentiated fetal adenocarcinoma; Lung; Good prognosis

Abstract
Well-differentiated fetal adenocarcinoma (WDF A) is a very uncommon malignant tumor originating in the lung. This report describes the case of a 38-year-old woman with a WDF A treated by surgery. The malignancy is low grade and associated with a good prognosis, and so it is important for clinicians to be aware of and to identify this rare variant of adenocarcinoma.

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PALAVRAS-CHAVE
Adenocarcinoma fetal bem diferenciado; pulmão; bom prognóstico

Adenocarcinoma fetal bem diferenciado: um tumor maligno no pulmão muito invulgar

Resumo
O adenocarcinoma fetal bem diferenciado (WDF A, de acordo com a sigla em inglês) é um tumor maligno no pulmão muito invulgar que tem origem no pulmão. Este relatório descreve o caso de uma mulher de 38 anos com WDF A tratada através de cirurgia. A malignidade é de baixo grau e está associada a um bom prognóstico e, por isso, é importante que os clínicos estejam atentos e identifiquem esta variante rara de adenocarcinoma.

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Introduction

Fetal Adenocarcinoma is a very uncommon malignant tumor originating in the lung, and was first described by Kradin et al. as a subtype of pulmonary blastoma, which resembled the epithelial component of the fetal lung without sarcomatous contingent.

In 1984, the term fetal adenocarcinoma was introduced by Kodama et al. 14 years later Nakatani et al. identified 2 groups: well differentiated occurring in young women and with a good prognosis and poorly differentiated with a similar prognosis to classical non-small cell carcinoma. Fetal adenocarcinoma has been considered in the WHO classi-
Fig. 1  Chest X-ray demonstrating a hilar and paracardial left opacity.

Fig. 2, 3  A computed tomography scan showing an inhomogenous mass partially cystic, budding at the lingular bronchi and then developing in intrathoracic without mediastinal lymphadenopathy or pleural effusion.

The patient was assessed clinically at stage T3N0M0. Thoracotomy was performed and the patient underwent a superior left lobectomy with lymphadenectomy. The tumor measured 6 cm at the widest diameter. Microscopic examination confirmed the description above.

Discussion

Lung tumors resembling the fetal lung are a very uncommon primitive malignant tumor originating in the lung. They include pulmonary blastoma and fetal adenocarcinoma. The incidence of this malignant tumor has been estimated at 0.5% of all primary lung tumors.

In the series of Kodama et al., all the patients were elderly males. The majority died of their tumor. Koss et al. reported a series with better survival where almost all the patients were female. In 1990, Natakatani et al. identified subcategories of fetal type adenocarcinoma where the prognosis was good, specifically occurring among woman.

In 1998 Natakatani et al. identified 2 groups of fetal adenocarcinoma: WDFA occurring in young women, generally non smokers, which had a good prognosis, also called
endodermal tumor resembling the fetal lung, and poorly differenti- 
ated fetal adenocarcinoma with a similar prognosis to classical 
non-small cell carcinoma.

Histologically, the WDF A element characteristically 
demonstrates glandular elements with tubules composed of 
glycogen-rich, non-ciliated cells that resemble fetal lung 
tubules and squamoid morules may be seen with clear nuclei 
within lumens. The immature mesenchyme and epithe-
lum mimic the embryonic lung at 10–16 weeks gestation. 
The name WDF A is therefore derived from the histological 
appearances of the tumor.6,7 Most are low grade with a favor-
able outcome. When mixtures occur with other histological 
subtypes, the tumor should be classified according to the 
predominant component.

A correct pre-operative diagnosis of endobronchial biop-
sies is difficult. Although a correct diagnosis may be achieved 
after resection, thorough sampling is essential, because the 
tumor may be heterogenic, with components characteristic 
of WDF A and pulmonary blastoma8 or components of more 
conventional adenocarcinoma. In both cases the prognosis 
is worse. Indeed, the 10-year survival for WDF A is about 
75% versus about 15% for pulmonary blastoma. In our case 
the presence of this latter was excluded by conventional 
microscopy.

The standard treatment is surgical resection, if techni-
cally possible.

Conclusion

This case of well-differentiated fetal adenocarcinoma illus-
trates the importance of establishing an accurate diagnosis 
when a pregnant woman presents with respiratory symp-
toms by carrying out the necessary tests, obviously taking great 
care, especially when the symptomatic treatment does not 
provide any improvement. However, report emphasizes how 
important it is for clinicians to consider and identify this 
rare variant of adenocarcinoma because of its low grade 
malignancy associated with good prognosis.

References

1. Kradin RL, Kirkham SE, Young EJ, Dickersin GR. Pulmonary blas-
toma with argyrophill cells and lacking sarcomatous features 
2. Kodoma T, Koide T, Shimosato Y, Naruke T, Watanabe S, Shimase 
J. Six cases of well differentiated adenocarcinoma stimulating 
1984;8:734–44.
3. Nakatani Y, Kitamura H, Inayama Y, Kamijo S, Nagashima Y, 
Shimoyama K, et al. Pulmonary adenocarcinomas of fetal lung 
type: a clinicopathologic study indicating differences in his-
tology epidemiology and natural history of low-grade and high 
4. Travis WD, Brambilla E, Noguchi M, Nicholson AG, Geisinger 
KR, Yatabe Y, et al. International Association for the Study 
of Lung Cancer/American Thoracic Society/European Respira-
tory Society International Multidisciplinary Classification of Lung 
5. Amirat L, le Pimpec Barthes F, Daniel C, Poulet B, Riquet M. 
Adénocarcinome pulmonaire bien différencié de type fœtal: une 
6. Sheehan KM, Curran J, Kay EW, Broe P, Grace A. Well differen-
tiated fetal adenocarcinoma of the lung in a 29-year-old woman. 
7. Politiek MJ, Vrugt B, Aalbers R. A 49-year-old woman with well-
differentiated fetal adenocarcinoma. The Netherlands J Med. 
8. Thompson RJ, Hasleton PS, Taylor PM, Woodhead M, Byrd LM. 
Haemoptysis in pregnancy caused by a well-differentiated fetal 