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Research Article

Lung Cancer Patients in Al Bairouni Hospital: Auditing Diagnosis and Risk Factors

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Abstract

Background: Lung cancer remains a major medical, and social worldwide health problem, in 2018 2.1 million new cases were diagnosed all over the world.

Cigarette smoking is by far the most important factor in the development of lung cancer.

In Syria we have not surveyed lung cancer.

Objectives: This study aims to describe risk factors, calculate the EGFR mutation incidence, figure out what are the; most common type, stage and metastasis in lung cancer patients, and also spread knowledge about lung cancer risk factors, early symptoms and the importance of early diagnosis.

Methods: We surveyed a random sample of 336 lung cancer patients that presented to al Baironi hospital in Damascus, Syria between January 2018- April 2019, our study was observational study retrospective and prospective.

All the patients were asked the same questions regarding symptoms, risk factors, and treatment.

All patients had endoscopy and if necessary complimentary procedures to get a positive biopsy.

We used SPSS version 25 to calculate results and we gave Chi-Square and P value.

Results: Our results were reported in tables and figures; we summarized them with the following:

- There is association between high risked jobs and lung cancer: 63% of patients were exposed p value = 0.0006 < 0.05.
- Most cases were: Males 83.6%, smokers 80.4%, 60 ± 10 years' old.
- Most common symptoms are: persistent cough 75.3% and chest pain 38.7%.
- The most common type of lung cancer is Adenocarcinoma 47%.
- Stage IV in 62.8%.
- The majority of patients had metastasis into the throat cavity 33.2% followed by brain 17.7%.
- EGFR mutation 20.2% in Adenocarcinoma patients.
- Most used treatment: Platin and Navelbine 52.4%.

Conclusion: Lung cancer risk factors include smoking, males, old ages, high risk jobs. there is a problem in early diagnosis methods, that leads to late stages patients and that also limit treatment options. The most common type is Adenocarcinoma; EGFR mutation rate is 20.2% in Adenocarcinoma patients.

Keywords: *Cancer; Lung Cancer; Smoking; EGFR; Adenocarcinoma*

Introduction

Cancer is a national concern it's a challenging problem that is affecting millions of people in both developed and developing countries, 1/5 of men and 1/6 of women will develop cancer in some stage of their lives [1].

Lung cancer is the number one killer cancer, it's the most common cancer in men and the 2nd common cancer in women [1].

Lung cancer is increasing in numbers globally, approximately 2.1 million diagnoses are estimated in 2018 [1].

Median survival after diagnosis was 13 months for non-metastatic and five months for metastatic lung cancer [2].

EGFR mutation detection is important to decide which is the best treatment option and to determine which tumors will respond to tyrosine kinase inhibitor [3].

Smoking is a preventable cause of lung cancer and also it's the major risk factor for it [4].

It's important to mention that passive smoking is very harmful as well [5].

In Syria lung cancer has never been studied, so we decided to reflect the reality of lung cancer, including patients profile, risk factors, ways of diagnosis and treatment in Al Bairouni Hospital.

Methods

Participants

We selected a random sample of patients who visited Al Bairouni Hospital in Damascus, Syria. between January 2018 and April 2019. our study was observational, retrospective and prospective. It should be noted that this study didn't include all patients presented to Al Bairouni Hospital.

A table was created and divided into multiple groups that describe the following components: age, work, address, gender, smoking, alcoholism, symptoms, pathologic information, metastasis, EGFR mutation, treatment and way of diagnosis.

Table link:

https://www.dropbox.com/s/4e3x1754g896r9r/lung%20cancer%20paper%20eng%20new.docx?dl=0

Results were reported and studied to determine variations in numbers and frequency and also to describe relations between multiple factors.

Ethical Approval

Our study was approved by the ethical committee of Syrian Private University and Al Bairouni Hospital, patients consent was also granted from all of them.

Results

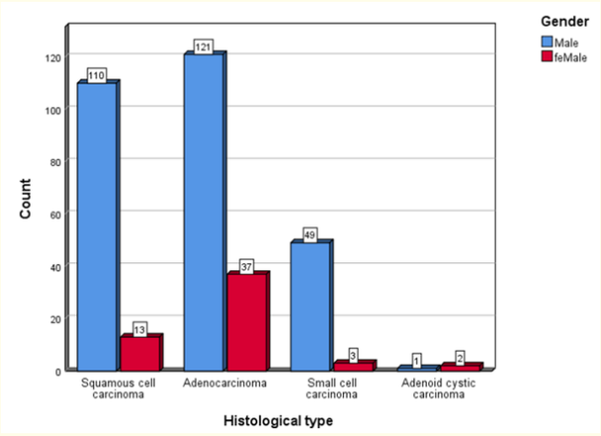

Figure 1: *Gender in different histopathological type. Lung cancer is more common in males.*

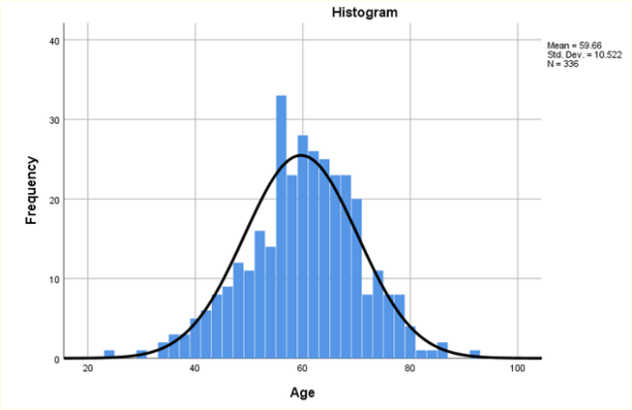

Figure 2: *Distribution according to age.*

Most frequent age is 60 years ± 10.

		N	%
Work	High Risk	213	63.4
	Low Risk	123	36.6
	Total	336	100
		N	**%**
Address	Damascus and Rif	106	31.5
	South region	42	12.5
	Median region	73	21.7
	Coast region	17	5.1
	North region	45	13.4
	East region	53	15.8
	Total	336	100.0

Table 1: *Work and address.*

They are mostly men and have occupational exposure.

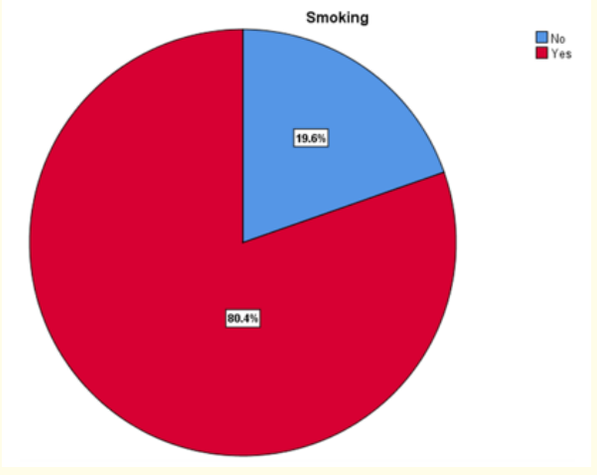

Figure 3: *Smoking distribution.*

Smoking is the main risk factor and persistent cough is the main symptom.

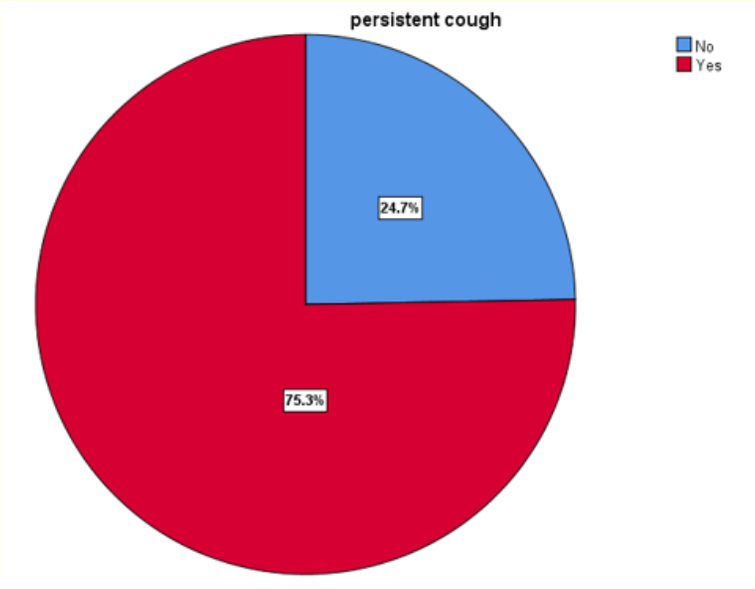

Figure 4: *Persistent cough distribution.*
Persistent cough is the major symptom.

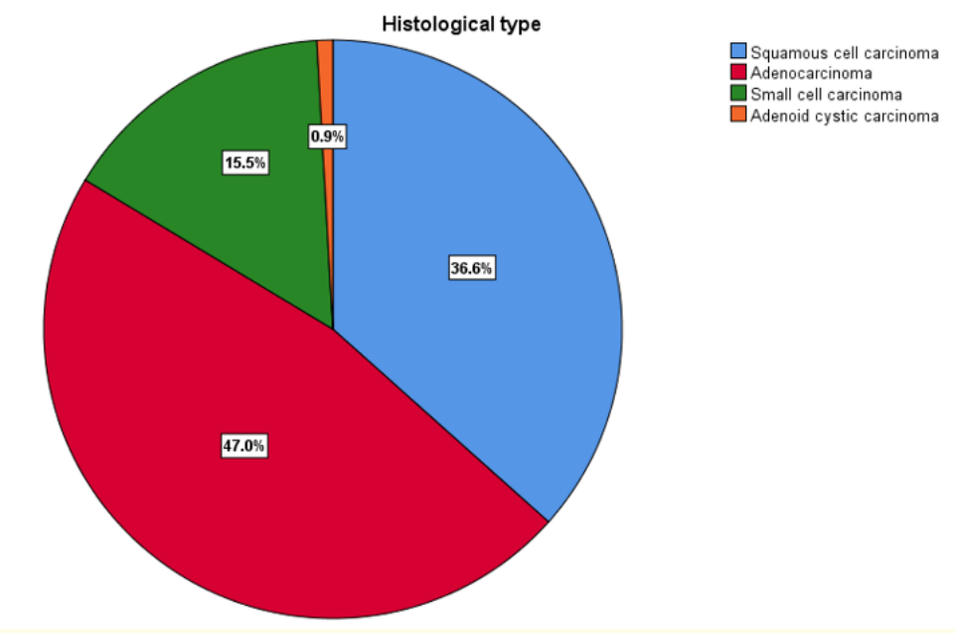

Figure 5: *Histological type distribution.*
The most common histological type is Adenocarcinoma

EGFR Mutation	Negative	67	41.9	79.8
	Positive	17	10.6	20.2

Table 2: *EGFR mutation.*
EGFR mutation in Adenocarcinoma patients.

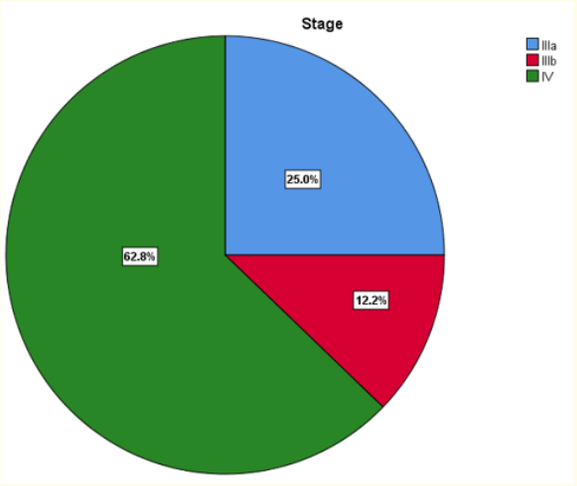

Figure 6: *Stage distribution.*
The most prevalent is stage IV.

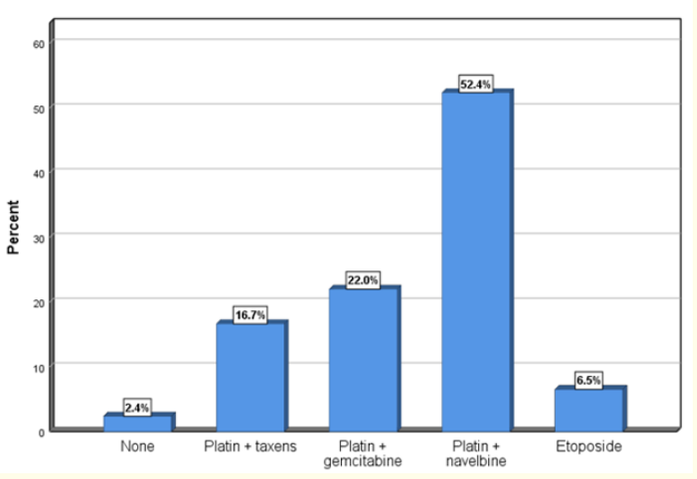

Figure 7: *Diagnosis and treatment.*
Navelbine as adjuvant therapy gave the best result.

Discussion

According to WHO it's more likely to develop cancer in people with high risked jobs and that's what we saw in Syria as well, so it's very important to follow up firm rules to protect workers in order to reduce their chances to develop cancer while their exposure to cancerous materials [6].

According to *JNCI* (*Journal of the National Cancer Institute*) there's a relation between lung cancer and high risk jobs [7] and that's so similar to our findings 63% of lung cancer patients are working in high risked jobs.

Lung cancer is more common in males 83.6% while it's 16.4% in females. And that's similar to WHO rates [6].

Lung cancer is a common disease in the elderly and, in our study in Syria, 43% of patients were aged 75 or over at presentation [8], but the most frequent age was 60 years old.

In a study in 29 health center districts in Japan, standardized mortality rates for lung cancer were assessed according to the smoking habits and showed correlation p value = 0 00097) [5].

Of course smoking has been always an important risk factor for lung cancer, and that's exactly what we saw in our study 80.4% of patients are smokers.

And lately smoking rates are increasing in women and this may declare the possibility of higher lung cancer rates in future [9].

The most common symptom was persistent cough followed by chest pain.

After calculating numbers of histological types we found that Adenocarcinoma is the most common type 47% and it's very close to the global incidence 40% [10].

The most frequent stage was unfortunately stage IV and that's also was mentioned by American cancer society and that's leads us to spread early diagnosis awareness and to make more efforts on it.

As a result of that late stage frequency, most patients have metastasis particularly into the throat cavity 33.2% and brain 17.7%.

Majority of patient didn't need surgery this might be due late diagnosis.

A study that was published in Lancet journal shows that Navelbine extends survival rates in patients [11].

The most used medical therapy was Platin and Navelbine combination 52.4%.

Understanding the epidemiology and causal factors of lung cancer can provide additional foundation for disease prevention [12].

All nurses need to ensure that patients with a diagnosis of lung cancer who use tobacco receive tobacco dependence treatment and support to quit [13].

Conclusion

Lung cancer incidence is high in Syria, it affects males particularly, most patients are smokers, and they missed early detection and diagnosis which contribute in developing higher cancer stages resulting in narrowing treatment options and limiting benefits of surgical procedures.

Recommendation

We hope these results encourage us to spend more efforts spreading awareness about lung cancer and its risk factors and how to avoid them in both society and concerned medical associations, it also seems like we should focus more on early diagnosis programs in order to help more patients to survive from cancer and to live longer with a cancer free bodies.

Bibliography

1. World Health Organization. "A report about Latest global cancer data" (2018).
2. Riihimäki M., *et al*. "Metastatic sites and survival in lung cancer". *Lung Cancer* 86.1 (2014): 78-84.
3. Bethune G., *et al*. "Epidermal growth factor receptor (EGFR) in lung cancer: an overview and update". *Journal of Thoracic Disease* 2.1 (2010): 48-51.
4. Brown., *et al*. "The fraction of cancer attributable to modifiable risk factors in England, Wales, Scotland, Northern Ireland, and the United Kingdom in 2015". *British Journal of Cancer* 118.8 (2018): 1130-1141.
5. Hirayama T. "Non-smoking wives of heavy smokers have a higher risk of lung cancer: a study from Japan". *British Medical Journal (Clinical Research Edition)* 282.6259 (1981): 183-185.
6. Weissman DN and Howard J. "Work-Related Lung Cancer: The Practitioner's Perspective". *American Journal of Public Health* 108.10 (2018): 1290-1292.

7. David Coggon., *et al*. "Use of Job-Exposure Matrix in an Occupational Analysis of Lung and Bladder Cancers on the Basis of Death Certificates". *JNCI: Journal of the National Cancer Institute* 72.1 (1984): 61-65.

8. MF Muers and RA Haward. "Management of lung cancer". *Thorax* 51.6 (1996): 557-560.

9. World Health Organization. "A report about Gender in Lung Cancer and Smoking Research" (2019).

10. American Society of Clinical Oncology (ASCO) (2019).

11. Douillard JY., *et al*. "Adjuvant vinorelbine plus cisplatin versus observation in patients with completely resected stage IB–IIIA non-small-cell lung cancer (Adjuvant Navelbine International Trialist Association [ANITA]): a randomised controlled trial". *The Lancet Oncology* 7.9 (2006): 719-727.

12. Charles S Dela Cruz., *et al*. "Lung Cancer: Epidemiology, Etiology, and Prevention". Clinics in Chest Medicine 32.4 (2011): 605-644.

13. Bialous SA and Sarna L. "Lung Cancer and Tobacco: What Is New?" *Nursing Clinics of North America* 52.1 (2017): 53-63.

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