

UDK 611(082)

ISSN 1512-8245



AKADEMIJA NAUKA I UMJETNOSTI BOSNE I HERCEGOVINE  
АКАДЕМИЈА НАУКА И УМЈЕТНОСТИ БОСНЕ И ХЕРЦЕГОВИНЕ  
ACADEMY OF SCIENCES AND ARTS OF BOSNIA AND HERZEGOVINA

# RADOVI

KNJIGA XCII

Odjeljenje medicinskih nauka

Knjiga 31

Centar za medicinska istraživanja

Knjiga 2

*Redakcioni odbor*

Jela Grujić-Vasić, Ladislav Ožegović,  
Faruk Konjhodžić, Slobodan Loga

*Urednik*

Džemal Rezaković

redovni član Akademije nauka i umjetnosti  
Bosne i Hercegovine

SARAJEVO 2003

## MALIGN CHEST TUMORS

### Analysis of cases operated in 1998 through 2001

*Budalica M.<sup>1</sup>, Dizdarević Z.<sup>2</sup>, Žutić H.<sup>2</sup>, Ćerimagić Z.<sup>1</sup>*

#### Abstract

**Objectives:** In our long time practice we have observed occasional changes in the clinical course of malign diseases of chest. Since Bosnia and Herzegovina was in war from 1992 to 1995, we observed more of significant changes in the course and behavior of malign tumors of that area. **Patients and methods:** 532 patients with operated malign tumors of chest in the periods 1988 - 1991 and 1998 - 2001 are processed and 33 patients with operated lung carcinoma in the period 1992 through 1995. Number, localization, patho-histological findings, and TNM classification were analyzed. **Results:** Number of operated malign tumors of chest increased in the post war period (318-214). Number of operated malign tumors of pleura, chest wall, and mediastinum significantly increased. Patho-histological findings show slight turn towards more malign forms. During the war period, operated lung carcinomas showed extremely rapid growth of primary tumor. **Conclusions:** The aforementioned results are evident. But what is the cause of such changes: weapons of war, diet disorder, psychological stress? The task is to scientifically research all the elements that could come into consideration.

Long time experience in monitoring patients with malign tumors of chest points us to periodic differences in many elements related to that disease. While the weight loss was regularly evident earlier (10-15 kg) in the last 15 years it is considerably lower or completely absent. In the last 10 years we discover differences in some other elements of development and form of malign tumors of chest.

In the period from 1992 to 1995 our country, B&H, has been exposed to massive use of instruments of war: projectiles of various gauges and other weaponry, with quantitative and qualitative reduction of groceries, consumption of canned food, and great psychological stresses.



<sup>1</sup> Clinic for of Thoracic Surgery KCU Sarajevo

<sup>2</sup> Clinic for Pulmonary Diseases "Podhrastovi" KCU Sarajevo

In this paper we analyze the matter of malign diseases of chest operated at the Clinic of Thoracic Surgery KCUS in the periods of 4 years before the war, the war period, and 4 years after the war. Processed are: number of cases of malign diseases of chest, surgical findings of malign lung tumors, and staging of lung carcinomas.

### **Patients and analysis of the material**

Annual number of operated malign tumors of chest in our Clinic in 4 years before the war and 4 years after the war is shown in Table 1. Even though the reduction of the territory that gravitates towards our Clinic in the post war period is substantial, the number of cases in that period is evidently increased.

**Table 1.**

MALIGN TUMORS OF THE CHEST				
	1988	40	1998	75
1989	57		1999	92
1990	61		2000	79
1991	56		2001	72
TOTAL	1988-1991	214	1998-2001	318

Localization of malign chest tumors in pre and post war period is shown in Table 2.

**Table 2.**

MALIGN TUMORS OF THE CHEST		
	1988-1991	1998-2001
LUNGS	210 (98.13%)	239 (75.17%)
PLEURA	1 (0.47%)	8 (2.51%)
CHEST WALL	2 (0.93%)	35 (11%)
MEDIASTINUM	1 (0.47%)	36 (11.32%)
TOTAL	214	318

It is clear that number of interventions on pleura, chest wall, and mediastinum significantly increased.

Patho-histological findings of malign lung tumors show slight turn towards more malign forms in the post war period. Especially is impressive the percentage of microcellular carcinomas of 8% compared to 0% in the 4 years before the war as shown in Table 3.

**Table 3.**

PATHO-HISTOLOGICAL FINDINGS OF MALIGN LUNG TUMORS		
	1988-1991	1998-2001
Ca planocellulare	60%	51%
Adenocarcinoma	13%	20%
Ca anaplasticum	13%	9%
Ca microcellulare	0%	8%
Ca bronchoalveolare	4%	2%
Ca gigantocellulare	1%	2%
Carcinoid	9%	8%

During the war (1992-1995), besides huge engagement of the Clinic for Thoracic Surgery in taking care of war injuries of the chest, 33 patients with malign chest tumors were also operated. Considering the number and particular circumstances (the war period), it is impossible to compare this quantum of patients with those in the periods before and after the war. However, we also analyzed these cases and observed odd findings in TNM classification of malign lung diseases during the war (Table 4).

**Table 4.**

TNM CLASSIFICATION	
T <sub>1</sub> N <sub>0</sub> M <sub>0</sub>	0
T <sub>2</sub> N <sub>0</sub> M <sub>0</sub>	16
T <sub>3</sub> N <sub>0</sub> M <sub>0</sub>	6
T <sub>4</sub> N <sub>0</sub> M <sub>0</sub>	3
TOTAL	25 (75%)
T <sub>2</sub> N <sub>1</sub> M <sub>0</sub>	2
T(4 sl. <sub>2</sub> , 1 sl. <sub>3</sub> ) N <sub>2</sub> M <sub>0</sub>	5
T <sub>2</sub> N <sub>0</sub> M <sub>1</sub>	1
TOTAL	8 (25%)

We compared it with one of equivalent tables analyzing lung carcinoma from a country in peace (Table 5)

**Table 5.**

N status in T <sub>1</sub> operated Ca of the lungs			
Group A (Tu up to 1 cm)	N <sub>0</sub> 100%	N <sub>1</sub> 0%	N <sub>2</sub> 0%
Group B (Tu up to 2 cm)	N <sub>0</sub> 83%	N <sub>1</sub> 5%	N <sub>2</sub> 12%
Group C (TU up to 3 cm)	N <sub>0</sub> 62%	N <sub>1</sub> 12%	N <sub>2</sub> 25%

(Ishida: Ann Thorac Surg: 1990,50)



We have observed evident difference. It is clear that there had been incredibly rapid growth of primary tumor before it produced lymph nodes and distant metastasis. As an oddity we point out one case of lung cancer in which after the explorative thoracotomy, there was protrusion of tumor through not yet healed drainage opening on chest wall in the period while there were still no clinical indications of distant metastasis.

## Discussion

As long time participants in treatment of malign diseases of the chest we can assert evident increase of the aforementioned, drastically so for pleura and chest wall, and alarmingly so for mediastinum.

Patho-histological findings of lung carcinoma show a turn towards more malign forms.

Staging of lung cancer in the war period differs from that in peacetime. Growth of primary tumor is so rapid that it produces symptoms early, and it is surgically treated without encompassing lymph nodes or appearance of distant metastasis. What is the cause of such differences in our materials? How much has the war period contributed to that? How much influence on this does the employment of the new weaponry have, especially those with uranium content? What is the role of psychological stress in all that?

## Conclusion

It is necessary to reevaluate all medical indicators and conditions in periods when these patients' disease occurred, and by means of scientific methods try to reach valid perception on causes of changes in biology of malign diseases of the chest. We have stated and processed facts. What's left for the future is to scientifically process them and find answers.

## Apstrakt

**Ciljevi:** U svojoj dugogodišnjoj praksi primjetili smo povremene promjene kliničkog toka malignih oboljenja grudnog koša. Kako je Bosna i Hercegovina bila od 1992. do 1995. god. u ratnom stanju primjetili smo više značajnijih promjena u toku i ponašanju malignih tumora te regije. **Pacijenti i metode:** Obradeno je 532 pacijenta operisanih malignoma grudnog koša u periodima 1988. – 1991. god. i 1998 – 2001. god., te 33 pacijenta operisanih karcinoma pluća u periodu 1992 – 1995. god. Analiziran je broj, lokalizacija, pato-histološki nalaz i TNM klasifikacija. **Rezultati:** Povećan je broj operisanih malignih tumora grudnog koša u poslijeratnom periodu (318-214). Značajno je

povećan broj operisanih malignih tumora pleure, zida grudnog koša i medijastinuma. Pato-histološki nalaz pokazuje blago skretanje prema malignijim formama. U ratnom periodu operisani karcinomi pluća pokazali su ekstremno brz rast primarnog tumora. **Zaključci:** Gore navedeni rezultati su evidentni. Ali šta je uzrok ovakvih promjena: ratna oružja, poremećaj ishrane, psihički stres? Zadatak je naučno-istraživački ispitati sve elemente koji bi mogli doći u obzir.

## References:

Ishida T., Yokoyama H., Kaneko S., Sugio K., Sugimachi K., *Long-Term Results of Operation for Non Small Cell Lung Cancer in the Elderly*, Ann Thorac Surg, 1990; 50: 919-922.

Shields Th W., Behavior of Small Bronchial Carcinomas, Ann Thorac Surg, 1990; 50: 691-692.

Thomas P., Rubinstein L., and Lung Cancer Study Group, *Cancer Recurrence After Resection T<sub>1</sub>N<sub>0</sub> Non Small Cell Lung Cancer*, Ann Thorac Surg, 1990; 49: 242-247.

Budalica M., *Hirurška terapija karcinoma pluća*, Medicinski arhiv, 1995; 49(3-4) supl. 1:59-61.

Budalica M., Hadžismailović A., Ćerimagić Z., Kacila M., *Hirurški tretman karcinoma pluća u ratu*, Medicinski žurnal, 1997; 3(2): 131-134.

