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## 274 例原发性肺癌外科治疗

黄直凡 周辉楠 刘广森 戎铁华 杨名添 曾灿光 吴一龙 蔡永惠

(附属肿瘤医院胸科)

本文对我院 1967.6~1981.12 外科治疗的 274 例原发性肺癌 (其中包括软组织恶性肿瘤 6 例) 进行临床病理分析, 着重讨论肺癌的组织学类型、病期与切除范围对预后的影响。

### 临床资料

**年龄与性别** 本组 274 例中年龄最大为 67 岁, 最小 18 岁, 其中 40~59 岁年龄组最多, 占 77.7% (213/274), 30 岁以下 7 例, 60 岁以上 28 例。男性 220 例, 女性 54 例, 男女之比为 4:1。

**肿瘤部位与临床分型** 右侧 140 例, (上叶 74 例, 中叶 16 例, 下叶 50 例); 左侧 134 例 (上叶 82 例, 下叶 52 例)。中央型 58 例, 外周型 216 例。

**组织学类型** 腺癌 120 例, 占 43.8%; 次为鳞癌 88 例, 占 32.1%; 未分化小细胞癌 19 例, 占 6.9%; 大细胞癌 14 例, 占 5.1%; 其他类型 33 例 (包括鳞腺癌 18 例, 肺类癌 4 例, 支气管腺癌 1 例, 低度恶性间叶瘤 2 例, 恶性血管外皮瘤 1 例, 浆细胞肉瘤 1 例, 纤维肉瘤 1 例, 未能分型 5 例) 占 12.1%。

**手术方法** 全肺切除 37 例; 肺叶切除 167 例 (包括双叶切除 23 例, 单叶切除 138 例和支气管袖状或楔形加肺叶切除 6 例); 肺段或肺楔形切除 14 例, 总的手术切除为 218 例, 另 56 例为单纯剖胸探查, 按切除的彻底程度和术后病理结果, 在切除 218 例中, 属根治性肺切除 179 例, 姑息性肺切除 39 例 (表 1)。

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# Distribution of Vasopressin-containing Neurons in the Hypothalamus and Their Projections to the Posterior Pituitary

## — A Study of HRP and Immunocytochemistry

### Double-labeling Method

Wu Wutian    Yao Zhibin    Chen Yici    Ye Luming

(Department of Anatomy)

### Abstract

The distribution of vasopressin-containing neurons in the hypothalamus and their projections to the posterior pituitary were studied using the HRP and immunocytochemistry double-labeling method in the rat. The possible secretory pathways of vasopressin were discussed. The results were as follows: the vasopressin-containing neurons were found in the supraoptic nucleus (SON), the retrochiasmatic SON, the paraventricular nucleus, the suprachiasmatic nucleus, the anterior commissural nucleus, the bed nucleus of the stria terminalis, the nucleus circularis, the fornical nucleus, the preoptic areas, the anterior hypothalamic area, the medial and lateral areas of hypothalamus, and the periventricular nucleus. Some were found between the ependymal cells of the third ventricle and around the venous cavity. Several dense dendritic plexuses were found very close to the CSF in the SON, the retrochiasmatic SON, the ependymal layer and subependymal layer of the third ventricle, and around the venous cavity of the hypothalamus. All of nuclei mentioned above, except the suprachiasmatic nucleus, were found projecting fibers to the posterior pituitary. The results indicate that vasopressin may be secreted to: (1) the posterior pituitary, (2) the CSF, (3) the venous cavity of the hypothalamus.

Words; Vasopressin-containing Neuron. HRP Immunocytochemistry

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表1      218例肺癌切除范围及性质

	全肺切除	肺叶切除	肺段或楔形切除	合计
根治性	31	143	5	179
姑息性	6	24	9	39
合计	37	167	14	218

所谓姑息性是指术中见癌瘤直接侵犯或转移至胸膜、胸壁、心包、纵隔淋巴结而无法切除干净(本组共31例)和术后病理检查支气管切端有癌细胞残存(8例)。

### 治疗结果

本组手术切除病例共217例,根治性179例,姑息性39例,手术切除率为79.6%(218/

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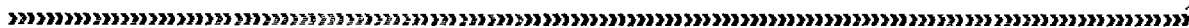
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## Transformation of Normal Human Nasopharyngeal Fibroblast Cells Induced by Nickel Sulfate in Vitro

Yang Dajun    Ou Baoxiang  
(Cancer Institute)

### Abstract

It was firstly approved that the trace element nickel compounds, which have a positive correlation with the nasopharyngeal carcinoma mortality rate in Guangdong province, Can induce the transformation of normal human nasopharyngeal fibroblast cells in vitro. The fibroblast cells were treated with nickel sulfate at 1µg/ml, 5µg/ml and 10 µg/ml in serum free meium for 24 hours. The experimental results represented that the morphologic transformation, alteration of cell surface and growth pattern, chromosomal aberrations, colonies growed in soft agar and remarkably extended life span occured after treated with nickel sulfate. We have systematically observed the chromosomal changes in control and transformed cells at regular intervals in culture. Our results suggested that chromosomal aberrations can play an important role in induction and development of neoplastic transformation in human cells.



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274), 术后并发症有呼吸功能衰竭4例, 支气管胸膜瘘、脓胸伴肺炎各1例, 消化道大出血1例, 均抢救无效死亡。按术后30天内死亡作为手术死亡计。手术死亡率为3.2%(7/218)或2.6%(7/274)。

随访结果 随访日期截至1984年12月, 仅2例于术后1例失访(按死亡计算), 其余均获随访, 随访率为99.3%。全组病例5年生存率为29.9%(55/184); 切除病例5年生存率

为37.9%(55/145); 根治性切除5年生存率为43.4%(53/122); 姑息性切除5年生存率为8.7%(2/23)(生存的2例均作术后放射治疗)(表2)。剖胸检查56例, 绝大多数1年内死亡, 无3年生存率。

### 讨 论

**肺癌的组织学类型与预后关系** 肺癌的组织类型不同, 其生长发展速度、转移方式等生

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# The Effects of Renal Receptors on Arterial Pressure

Tan Lining Pan Jingyun Zhan Chengyang Chen Yuhuai

(Department of Physiology)

## Abstract

The effects of renal receptors on blood pressure were observed in anesthetized rabbits with pentobarbital. Both elevation of renal intrapelvic pressure and occlusion of renal vein did not cause significant changes in arterial pressure (AP) in intact rabbits, but elicited significant fall in AP in rabbits with sino-aortic denervation (SAD). Perfusion of renal pelvis with urine and saline and the elevation of intrapelvic pressure also caused significant decrease in AP in rabbits with SAD. After renal denervation, the depressor response was abolished. Perfusion of pelvis with 100 mEq/L of KCl caused the increase in AP in rabbits with SAD. Occlusion of renal artery did not change AP in rabbits with SAD; but induced the elevation in AP after renal denervation. These data suggest that 1) excitation of renal mechanoreceptors causes reflexly the fall in AP; 2) arterial baroreflex has inhibitory effects on depressor response by excitation of renal receptors.

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物学特性也不同。其对手术后远期效果的影响已为多数学者所肯定，一般认为鳞癌预后最好，腺癌次之。但也有学者认为对能完全切除

表 2. 218例肺切除的生存率表

	切除例数	3年生存率	5年生存率	10年生存率
根治性	179	50.8% (91/179)	43.4% (53/122)	32.4% (11/34)
姑息性	39	17.8% (7/39)	8.7% (2/23)	0 (0/3)
合计	218	45.0% (98/218)	37.9% (55/145)	29.7% (11/37)

的病例而言，除未分化小细胞癌外，组织学类型对预后影响无大意义<sup>[1-3]</sup>。本组肺癌组织类型的分布与预后关系如表 3。

表面看来，5年生存率鳞癌似乎比腺癌高，10年生存率腺癌似乎比鳞癌高，但经统计学处理两者均无差异 ( $P > 0.05$ )。其他类型病

表 3. 244例肺癌组织类型与生存率关系

	例数	切除率	5年生存率	10年生存率
鳞癌	88	89.8% (79/88)	42.6% (26/61)	25% (4/16)
腺癌	120	79.2% (95/120)	37.7% (20/53)	33.3% (5/15)
小细胞癌	19	52.6% (10/19)	33.3% (2/6)	33.3% (1/3)
大细胞癌	14	57.8% (8/14)	50.0% (3/6)	50% (1/2)
其他类型	33	78.8% (26/33)	21.0% (4/9)	0 (0/1)
合计	274	79.6% (213/274)	37.9% (55/145)	29.7% (11/37)

例较少，欠比较意义。如果从根治性病例来对照，鳞癌5年生存率为49.1% (26/53)，10年生存率为28.0% (4/14)，腺癌5年生存

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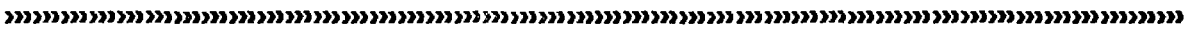
# The Quantitative Changes of Various Leukocytes in Peripheral Blood of Rat during Oncogenesis Induced by Dinitrosopiperazin (DNP)

Li Jintian    Li Boshan    Chen Niyong  
(Cancer Research Institute)

## Abstract

The number of various white blood cells in 17 Wistar rats were determined with the rountine and ANAE methods during oncogenesis induced by DNP, 15 mg/kg weight, subcutaneous injection, 2 times a week, a total of 51 times. These results showed that the quantity of ANAE-positive lymphocytes in peripheral blood were more in 90 and 180 days after injecting DNP than before. Among them,  $T_H$  cells representing help T cells were increasing in the early stage,  $T_C$  cells representing suppress T cells were increasing in the advanced stage. So authors consider that the proportional change of  $T_H$  and  $T_C$  cells, namely, the change of cell-mediated immune state, might help neoplasia in these rats.

Key words: DNP (Dinitrosopiperazin)    Rat    Leukocytes    ANAE (Acid  $\alpha$ -naphyl acetate esterase)



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率为40.9% (18/44), 10年生存率为35.7% (5/14), 两者相比及分别和本组根治性切除病例生存率相比, (表4) 均无统计学意义。但在实践中我们有同样体会, 腺癌易于转移扩散, 不能接受手术者相对占多数, 而能接受手术者可能比鳞癌稍早期。因此腺癌的预后比鳞癌的预后差<sup>[4]</sup>。但对于能根治的病例来说, 组织类型对预后特别是10年以上的预后影响不大 (见表3)。

**病期与预后关系** 本组除姑息性切除和单纯剖胸探查病例外, 手术认为切除干净, 病理无支气管断端及切缘残留癌的所谓根治性和亚根治性切除有179例, 其术后的国际分期<sup>[5]</sup> (pTNM) 为I期82例 (本组包括 pT<sub>1</sub>N<sub>0</sub>M<sub>0</sub> 9例, pT<sub>2</sub>N<sub>0</sub>M<sub>0</sub> 73例), II期33例 (仅含

pT<sub>2</sub>N<sub>1</sub>M<sub>0</sub>), III期64例, (含 pT<sub>3</sub>N<sub>0</sub>M<sub>0</sub> 38例, T<sub>3</sub>N<sub>1</sub>M<sub>0</sub> 14例, T<sub>3</sub>N<sub>2</sub>M<sub>0</sub> 4例, T<sub>2</sub>N<sub>2</sub>M<sub>0</sub> 8例)。表4清楚地表明, I期5年生存率

表4      179例肺癌根治手术的生存率

PTNM	生存率			
	病例数	三年生存率	五年生存率	十年生存率
I	82	64.6% (53/82)	60.3% (38/63)	40% (8/20)
II	33	36.4% (1/233)	33.3% (7/21)	40% (2/5)
III	64	44.2% (26/64)	21.1% (8/38)	11.1% (1/9)
合计	179	51.1% (91/179)	43.4% (53/122)	32.4% (11/34)

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# Morphological Observation of the Precancerous Lesions on Nasocavities in Rats

Li Boshan    Cai Haiying

(Cancer Research Institute)

## Abstract

Precancerous lesions of the nasocavities were induced by a large dose of DNP subcutaneous injection 12~14 times in 45 days in 30 rats. Cancerous lesions developed in all the animals when the observation period prolonged to 160 days. This paper emphasizes on the process of the precancerous lesions, which includes dysplasia of columnar epithelium, exophytic papilloma, epithelial infiltration, dysplastic metaplasia and abnormally differentiated proliferation of the base cell.

There are three mainly common morphological characteristics of the precancerous changes on experimental animals: proliferation, dysplasia and abnormally, differentiated tendency.

Key words: Precancerous lesions    Dysplastic metaplasia    Abnormally differentiated proliferation

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(60.3%), 明显地高于Ⅱ期(3.33%)。 $\chi^2=4.61 P<0.05$ ), Ⅱ期5年生存率百分比高于Ⅲ期(21.1%)但统计学上无意义( $\chi^2=1.08, P>0.05$ )。本组根治性手术的远期效果与第二届世界肺癌会议资料所报告的非小细胞癌的根治手术5年生存率(鳞癌Ⅰ期54%, Ⅱ期35%, Ⅲ期19%; 腺癌和未分化大细胞癌Ⅰ期51%, Ⅱ期18%, Ⅲ期10%)大致相同<sup>[6]</sup>。总的看来, 真正能治愈的肺癌病例仍太少, 即使目前临床上Ⅰ期病人, 有一部分可能在术前已发生了微小的亚临床转移。因此, 手术后远期效果仍十分不满意, 手术切除例数半数以上(55%, 120/218), 在术后3年内死于复发和转移。要提高治愈率, 就需要一方面真正做到早期诊断早期治疗, 另一方面寻找有效的和多学科的综合治疗方法。

肺癌切除范围与预后关系 本组根治性切

除179例肺癌中, 肺叶(单或双)切除143例, 全肺切除31例(左25例, 右6例), 局部切除5例, 各术式的远期效果见表5。

表5. 179例根治性术式与生存率关系

	切除例数	3年生存率	5年生存率	10年生存率
全肺切除	31	45.2% (14/31)	44.4% (8/18)	50% (2/4)
肺叶切除	143	50.1% (73/143)	42.0% (42/100)	30% (9/30)
局部切除	5	80.0% (4/5)	75.0% (3/4)	0 (0/0)
合计	179	50.8% (91/179)	43.4% (53/122)	32.4% (11/34)

本组全肺切除及局部切除病例较少, 进行几种术式远期疗效的比较是不恰当的。实践证

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明, 肺叶切除远期效果比全肺及局部切除佳, 这已得到了公认。无疑, 肺癌的外科治疗目前以肺叶或袖状肺叶切除相应淋巴结清扫为主要术式和首选方法, 但它们不能完全代替全肺切除这一术式。当肺叶切除无法清除转移淋巴结或支气管切缘达不到起码的安全界线, 而作全肺切除估计可获得彻底切除时, 只要病人心肺功能许可就应作全肺切除。本组31例根治性全肺切除, 5年生存率达到44.4%, 其中6例右全肺切除3年、5年生存率均为100% (6/6和4/4)。尽管病例少, 仍可以说明全肺切除是治疗肺癌的一种重要手段。过去我们对全肺切除尤其是右全肺切除, 慎之又慎, 对一些本来通过作全肺切除可望达到根治的病例而勉强作姑息性肺叶切除或者放弃了手术, 使病人失去了治愈的可能性。在目前的技术条件、术中、术后心肺功能监护系统逐步完善的情况下, 该

作全肺切除的就应果断地作出这一选择。此外本组有5例直径3cm左右的外周型肺癌, 由于术前诊断不明确而仅作了局部切除, 也显示了良好的预后, 5年生存率75.0% (3/4), 提示了局部切除式对小病灶的外周型肺癌可获治愈的可能, 这一术式尤适用于年老。心肺功能不太好的外周型小病灶(T<sub>1</sub>N<sub>0</sub>M<sub>0</sub>)。Overho H<sup>[1]</sup>等42年间选择168例早期肺癌作肺段切除, 5年生存率53%。我们体会, 根治切除不取决于切除范围的大小, 而在病灶(包括转移淋巴结)是否真正能彻底切除。在具体病人中应按最大限度切除癌瘤, 最大限度保留健肺组织的原则, 采用合适的切除范围和手术方式。

本组病例, 姑息性切除较单纯剖胸探查显示了较乐观的前景。对于不能根治切除的病例, 行姑息切除加术后放射, 值得继续探讨。

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# Effects of whole-Body Exposure to Microwaves (2450MHz) on Tumor Growth and Survival Rate in Mammary Adenocarcinoma Bearing Rats

Chen Chengzhang\* Sol. M. Michaelson\*\*

## Abstract

Whole-body exposure of tumor-bearing (mammary adenocarcinoma R-3230 AC) female Fisher 344 rats to 2450 MHz microwaves at 10, 20 and 40 mw/cm<sup>2</sup> (SAR = 3.4, 6.8 and 13.6 w/kg respectively), 3 hr daily for 5 days pre- and 5 days post-implantation tumor, did not influence regression or acceleration of tumor development. Although the survival time and MST<sub>50</sub> in rats exposed to 40 mw/cm<sup>2</sup> were 6.27 and 6.79 days shorter respectively than in the sham-exposed population, they were not statistically significant. About the regression lines of percent survival of the exposed group in comparison with sham-exposed group, at 20 mw/cm<sup>2</sup> group, individuals of exposed group began to die somewhat later than sham-exposed at the early stage, and former all died earlier than latter at the last stage (t-test of regression coefficient,  $p < 0.01$ ). Rats exposed to 40 mw/cm<sup>2</sup>, began to die at an earlier time and 100 percent death rate was also earlier than that of the sham-exposed group (t-test of regression coefficient,  $p < 0.01$ ). Thus microwave exposure above 20 mw/cm<sup>2</sup> might accelerated the rate of death by shortening the survival time. In addition, the ratio of spleen wt./thymus wt. was higher among 20 mw/cm<sup>2</sup> rats than that among the sham-exposed group ( $p < 0.046$ ).

\* Department of Environmental Medicine, Institute of Preventive Medicine, Sun Yat-Sen University of Medical Science.

\*\*Department of Radiation Biology and Biophysics, School of Medicine and Dentistry, University of Rochester, NY, U.S.A.

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## A Computer Program for Calculating Pharmacokinetic Constants Following I. V. Administration of Drug

Peng Bin Zhao Xianglan

(Department of Clinical Pharmacology)

### Abstract

A new BASIC program was presented. The potential advantages of the program were it can be run on Apple-II microcomputer.

The program was based on Gauss-Newton method. Blood concentration curve can be fit to appropriate multiexponential equation and pharmacokinetic constants can be calculated using this program.

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(上接54页)

## Surgical Treatment of 274 Patients with Primary Pulmonary Carcinoma

Huang Zhifan et al

(Tumor Hospital)

### Abstract

This paper reports the result of surgical treatment of 274 patients with primary lung cancer from June 1967 to Dec. 1981. Five and 10-year survival of curative resection are 43.4% and 32.4%. The paper discussed the factors of influence on prognosis such as histological type, clinical stage and resective extension. It is regarded that prognosis of adenocarcinoma is poorer than that of squamous cell carcinoma for all surgical cases, but histological type has little influence over 10-year survival in cases of curative resection. According to pTNM of AJC, the earlier the stage is, the better effect of surgical treatment is. Lobectomy is the surgical treatment of choice. Pneumonectomy gives as good survival as lobectomy. For cases of no curative resection, radiotherapy followed by palliative resection is a method of treatment that deserves to have more widespread clinical study.