四川省第二人民医院 THE SECOND PEOPLE'S HOSPITAL OF SICHUAN
四川省肿瘤医院·研究所

中国癌症流行病学的地域性

The Regional ism for Cancer Epidemiology of China

中国·四川癌症防治中心

China· Sichuan cancer center

各地癌谱分布具有多样性

The diversity of cancer distribution

肿瘤的发病受地区经济发展水平、人群生活方式、饮食习惯等因素影响。

Factors such as economic development, lifestyles, and dietary habit are associated with the incidence of cancer in different regions.

中国地域辽阔，各地经济发展水平、人居环境因素存在较大差异，从而导致了各地区人群癌谱分布各具特点，发病顺位和全国统计结果相比，存在一定的差别。

As China covers a vast expanse of land, and the economic development status and inhabitation environment vary in indifferent regions , the cancer spectrum varies. Therefore, the rank of incidence in each region is different from national results.

中国恶性肿瘤高发地区
The high incidence areas of cancer in China

癌种 site	高发地区 **high incidence areas**
肝癌 Liver Cancer	江苏启东，广西扶绥 Jiangsu Qidong, Giangxi Fusui
肺癌 Lung Cancer	云南个旧，辽宁省，北京市，天津市 Yunnan Gejiu,Liaoning,Beijing,Tianjin
食管癌 Esophageal Cancer	河南、河北、山西太行山地区，四川东北地区 Henan,Hebei,Shanxi, northeast of Sichuan
鼻咽癌 Nasopharyngeal Cancer	华南地区 South of China

四川省癌谱兼具双重特征。跟国家恶性肿瘤发病和死亡顺位相比较，一方面，发达地区高发的与环境、生活方式有关的肺癌、乳腺癌、结直肠癌成为四川省居民发病和死亡的主要癌种；

Comparing with the national statistics, the cancer spectrum in Sichuan has two distinguishing features. On the one hand, lung caner, breast cancer and colorectal cancer, which are usually common in developed regions and related to environment and lifestyle, attribute to the main incidences and mortalities of cancer in Sichuan.

另一方面，不发达地区高发的上消化道癌症——食管癌、胃癌的发病和死亡顺位在四川省癌谱中亦较为靠前。

On the other hand, upper digestive tract cancers such as esophageal cancer and stomach cancer, which are common in underdeveloped regions, have high ranks in the cancer spectrum of Sichuan.

王主任的报告中（下简称”报告”）显示：全国男性人群发病顺位是：肺、胃、肝、结直肠、食管癌；全国女性人群发病顺位为：乳腺、肺、结直肠、胃、宫颈癌。

In Chief Wang's report, nationally, lung cancer, stomach cancer, liver cancer, colorectal cancer and esophageal cancer are the top five in males; and breast cancer, lung cancer, colorectal cancer, esophageal cancer and cervical cancer are the top five in females.

根据中国西部地区四川省2013年肿瘤登记数据显示，较之全国癌谱，四川男性肝癌、食管癌发病顺位靠前，鼻咽癌发病进入前十；

The 2013 cancer registration of Sichuan showed that male liver cancer and esophageal cancer had higher ranks in Sichuan cancer spectrum than in the national cancer spectrum, and nasopharyngeal cancer was in the top 10 in Sichuan cancer spectrum.

四川女性肺癌发病率高于乳腺癌，肝癌、食管癌发病排名靠前（全国数据女性乳腺癌发病顺位为第一位）。

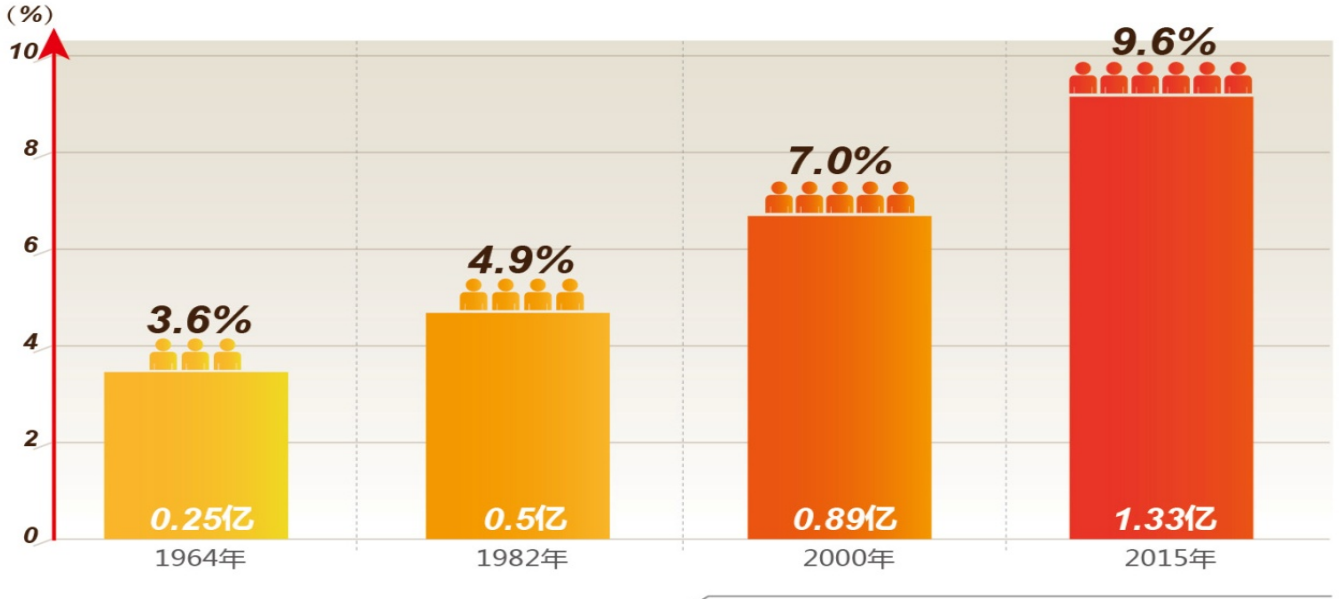
The rank of female lung cancer in Sichuan cancer spectrum was higher than that of breast cancer, which was at the first rank in the national cancer spectrum, and liver cancer and esophageal cancer also had higher ranks in Sichuan cancer spectrum than in the national cancer spectrum.

人口老龄化是肿瘤发病率上升的主要因素

The aging of population is the main cause for the increase of incidence of cancer

20世纪90年代以来，随着人均期望寿命的延长，中国的老龄化进程加快，目前中国人口已经进入老年型。

Since the 1990s, with the extending of average life expectancy, the aging process of population in China is accelerating. Now, China has become an aging society.



中国65岁以上人口占总人口比例

中国人口老龄化水平变化（%）

1999年 1/10

2007年 1/9

2012年 1/7

2020年 1/6

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aging population levels of China(%)

1999: 1/10

2007: 1/9

2012: 1/7

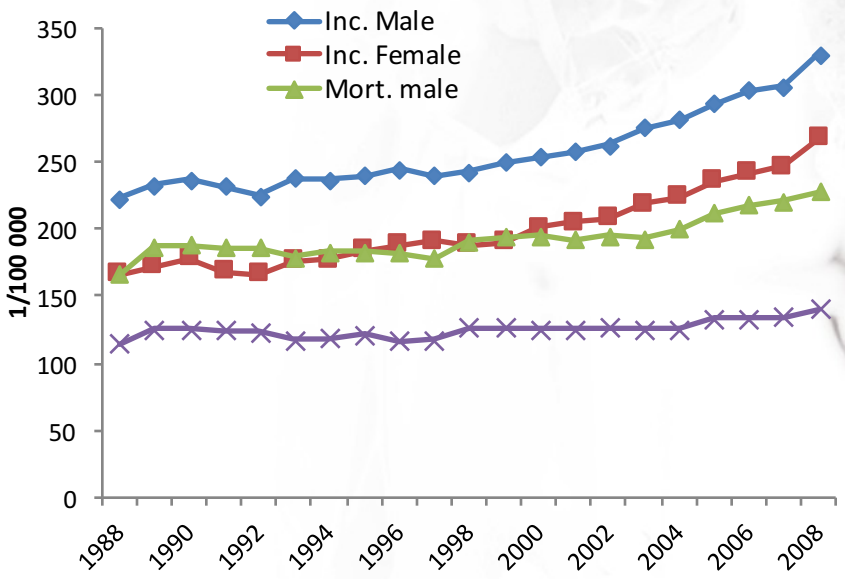
2020: 1/6

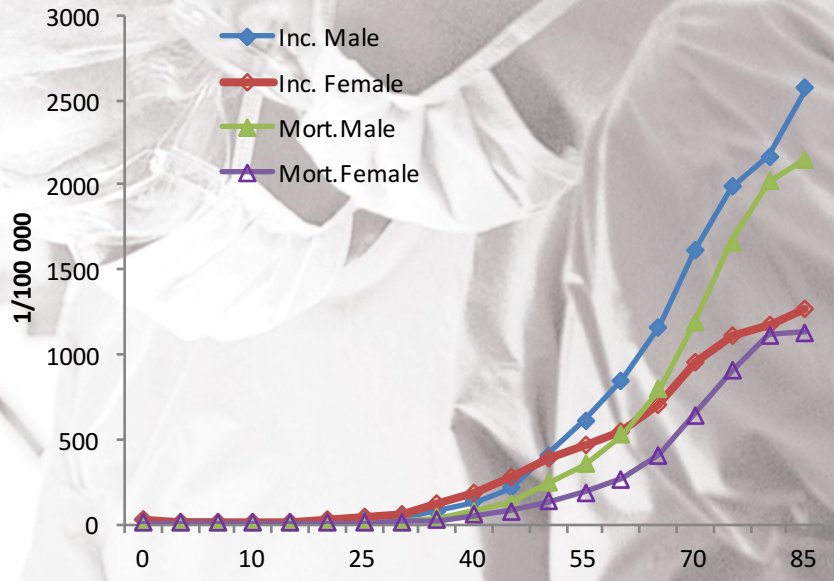
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资料来源：中国人口老龄化发展趋势百年预测（2000-2100年）

报告显示：过去20多年间，全国肿瘤发病率呈现逐年上升趋势，随着年龄的增长，肿瘤发病亦呈上升趋势，尤其40岁以后，恶性肿瘤发病率上升明显。

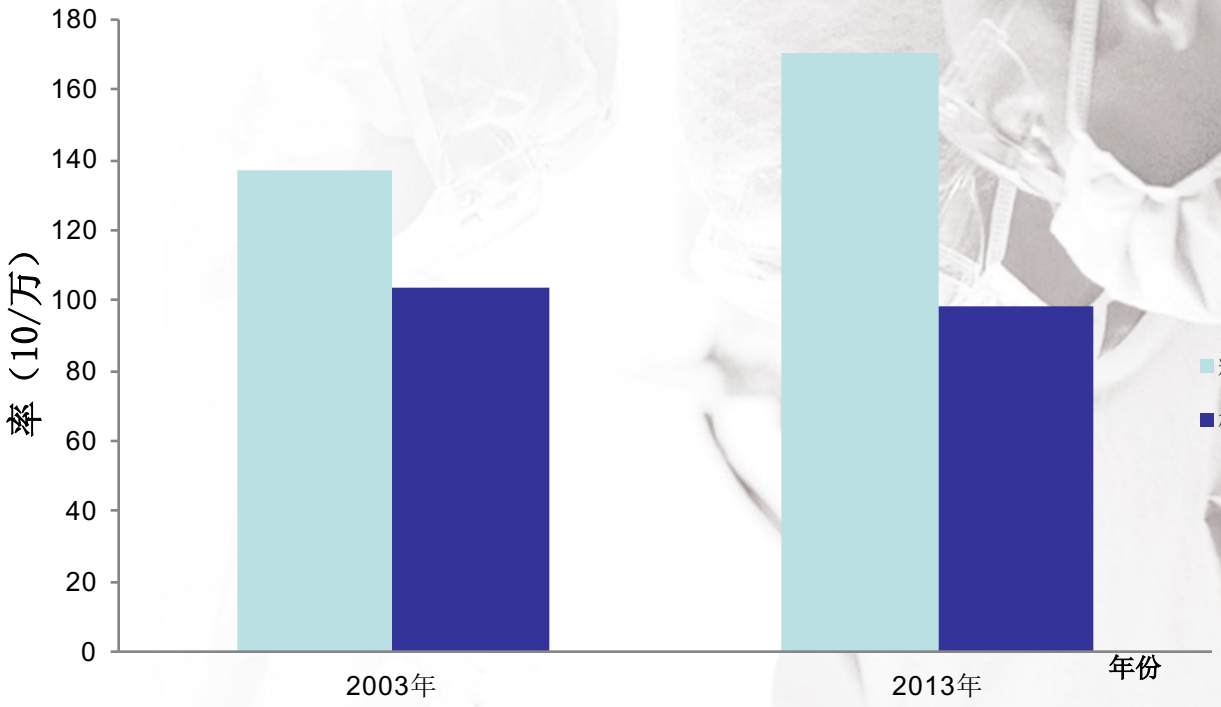
As it is reported: during the past 20 years ,the incidence of cancer in China showed an increasing tendency year by year. With the increase of age, cancer incidence increased as well. Especially among the population aged over 40 years , this tendency was found even obvious.


Inc. Male
Inc. Female
Mort. male
1/100 000
350
300
250
200
150
100
50
0
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008


Inc. Male
Inc. Female
Mort.Male
Mort.Female
1/100 000
3000
2500
2000
1500
1000
500
0
0
10
25
40
55
70
85

2003—2013年间四川省恶性肿瘤死亡率由136.65/10万上升至170.31/10万，经年龄调整后，标化死亡率由2003年的103.71/10万降低至2013年的98.10/10万。说明这一期间恶性肿瘤的粗死亡率的上升主要是由于人口年龄结构的影响。

The mortality of cancer in Sichuan Province increased from 136.65/100,000 to 170.31/100,000 during 2003 to 2013. After the age adjustment, the standardized mortality decrease from 103.71/100,000 in 2003 to 98.10/100,000 in 2013, which demonstrated that the increase of the crude mortality of cancer during this period was due to the influence of age constitution of population.



2003年-2013年间四川省恶性肿瘤死亡率

2004-2014年间，四川省人均期望寿命由73.49岁延长至76.06岁，有学者论证，人均期望寿命每延长1岁，总的恶性肿瘤发病率将增加约12-15%。

The average life expectancy of Sichuan Province raised from 73.49 to 76.06 years old from 2004 to 2014. It is verified that the total incidence of cancer will increase about 12-15% with one year's increase of life expectancy.

寿命延长所导致的人口老龄化是导致四川省恶性肿瘤死亡率上升的重要原因。

The aging tendency of population caused by the prolonging of life was one important reason which induced the increase of mortality of cancer in Sichuan Province.

早诊早治可获得更高卫生经济学效益

Early detection and treatment can acquire higher health economics efficacy

报告中提到：目前在全中国范围内，针对一些早期发现并治疗预后良好的肿瘤，在高危人群中开展了相应的筛查、早诊早治项目。

It is mentioned in the report: For those cancer which can get good prognosis after early diagnosis and treatment, the corresponding screening , early diagnosis and treatment program has been carried out nationwide in high-risk population.

例如：淮河流域的肝癌、食管癌和胃癌的筛查项目；中国农村妇女乳腺癌、宫颈癌的筛查项目等。

Such as : the screening program of liver cancer, esophageal cancer and stomach cancer in Huaihe river region, the screening program of breast and cervical cancer among women in Chinese rural areas.

虽然恶性肿瘤的准确病因目前尚无法定论，但早期肿瘤及时治疗可以较大程度延长寿命这一结论目前已得到医学界的公认，无论是从卫生经济学角度，还是从降低人群肿瘤死亡率而言，这种通过简易筛查发现早期肿瘤患者，早期治疗，提高生存率的做法具有不可忽视的重要意义。

Although the accurate pathogenesis for cancer has not yet been found out , it is widely accepted in medical field that timely treatment of cancer at early stage can prolong the life expectancy to the larger extent. It is of important significance to detect cancer patients in early stage and provide them early treatment via simple screening ,thus to increase the survival rate of patients not only from the health economics point of view ,but also to the purpose of reducing the mortality of cancer in population.

以食管癌筛查为例，早期病人检出率约为2%，筛查成本约为300元/人，早期病人治疗成本约为8000元/人，中晚期病人治疗费用约15万元。

Here is an example: for the screening of esophageal cancer , the detection rate of early stage patients was 2% with the screening cost of 300 RMB per person. The treatment cost of patients in early stage was 8,000 RMB per person while that was 150 ,000 for patients in advanced stage.

	样本量 **No. samples**	结局 **Outcome**	总费用 **Total cost**
筛查 screened	100	发现100*2%=2例早期病人，进行治疗 100*2%=2 cases in early stage were detected and received proper treatment	筛查投入（300*100）+治疗费用（8000*2）=4.6万 Screening cost (300*100)+theatment cost(800*2)=46,000RMB
不筛查 unscreened	100	经过一段时间后发现2例中晚期病例，进行治疗 2 cases in advanced stage were diagnosed after a period and then accepted treatment	筛查投入（0）+治疗费用（150000*2）=30万 Screening cost (0)+theatment cost(150,000*2)=300,000RMB

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Thank you!