

· 论 著 ·

南宁市五种主要恶性肿瘤发病率分析

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摘要: **目的** 分析2018—2022年南宁市肝癌、肺癌、乳腺癌、结直肠癌和胃癌的发病情况及流行趋势。**方法** 通过南宁市卫生健康宣传信息中心住院系统大数据平台收集2018—2022年南宁市肝癌、肺癌、乳腺癌、结直肠癌和胃癌的新发病例资料, 计算粗发病率; 采用2020年第七次全国人口普查数据标化; 描述性分析5种恶性肿瘤病例的年龄、性别和城乡分布。采用年度变化百分比(APC)分析发病趋势。**结果** 2018—2022年南宁市肝癌粗发病率和标化发病率分别为24.46/10万和26.39/10万, 呈上升趋势(APC=15.122%、13.111%, 均 $P<0.05$); 肺癌粗发病率和标化发病率分别为23.42/10万和25.83/10万, 呈上升趋势(APC=13.714%、10.056%, 均 $P<0.05$); 乳腺癌粗发病率和标化发病率分别为19.13/10万和20.29/10万, 未见变化趋势(APC=-5.129%、-5.164%, 均 $P>0.05$); 结直肠癌粗发病率为18.81/10万, 呈上升趋势(APC=8.164%, $P<0.05$); 标化发病率为20.64/10万, 未见变化趋势(APC=5.044%, $P>0.05$); 胃癌粗发病率为7.27/10万, 呈上升趋势(APC=5.984%, $P<0.05$); 标化发病率为7.98/10万, 未见变化趋势(APC=3.304%, $P>0.05$)。肝癌发病年龄高峰为65~<70岁, 肺癌为75~<80岁, 乳腺癌为55~<60岁, 结直肠癌为80~<85岁, 胃癌为75~<80岁。男性肝癌、肺癌、结直肠癌和胃癌标化发病率高于女性(均 $P<0.05$)。农村肝癌、肺癌和胃癌标化发病率高于城市, 乳腺癌和结直肠癌标化发病率低于城市(均 $P<0.05$)。**结论** 2018—2022年南宁市肝癌、肺癌、结直肠癌和胃癌发病率均呈上升趋势, 乳腺癌发病率未见变化趋势。男性肝癌、肺癌、结直肠癌和胃癌标化发病率较高, 农村肝癌、肺癌和胃癌标化发病率较高。

关键词: 恶性肿瘤; 发病率; 趋势

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Incidence characteristics of five major malignant tumors in Nanning City

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Abstract: Objective To investigate the incidence and trends of liver, lung, breast, colorectal and gastric cancers in Nanning City from 2018 to 2022. **Methods** Data of new cases of liver, lung, breast, colorectal and gastric cancers in Nanning City from 2018 to 2022 were collected through the big data platform of the Nanning Health Propaganda and Information Center's Hospitalization System. The incidence rates were calculated and standardized using the data of the seventh national population census in 2020. The age, gender, and urban-rural distribution of the five malignant tumor cases were descriptively analyzed. The trends in incidence of the five malignant tumors were analyzed using annual percent change (APC). **Results** From 2018 to 2022, the crude and standardized incidence rates of liver cancer in Nanning City were 24.46/10⁵ and 26.39/10⁵, respectively, showing upward trends (APC=15.122% and 13.111%, both $P<0.05$). The crude and standardized incidence rates of lung cancer were 23.42/10⁵ and 25.83/10⁵, respectively, showing upward trends (APC=13.714% and 10.056%, both $P<0.05$). The crude and standardized incidence rates of breast cancer were 19.13/10⁵ and 20.29/10⁵, respectively, with no significant trends (APC=-5.129% and -5.164%, both $P>0.05$). The

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crude incidence rate of colorectal cancer was 18.81/10⁵, showing an upward trend (APC=8.164%, $P<0.05$), while the standardized incidence rate was 20.64/10⁵, with no significant trend (APC=5.044%, $P>0.05$). The crude incidence rate of gastric cancer was 7.27/10⁵, showing an upward trend (APC=5.984%, $P<0.05$), while the standardized incidence rate was 7.98/10⁵, with no significant trend (APC=3.304%, $P>0.05$). The age of onset peak for liver cancer was 65 to <70 years, for lung cancer was 75 to <80 years, for breast cancer was 55 to <60 years, for colorectal cancer was 80 to <85 years, and for gastric cancer was 75 to <80 years. The standardized incidence rates of liver, lung, colorectal and gastric cancers were higher in males than in females (all $P<0.05$). The standardized incidence rates of liver, lung and gastric cancers were higher in rural areas than in urban areas, while the standardized incidence rates of breast and colorectal cancers were lower in rural areas (all $P<0.05$). **Conclusions** The incidence rates of liver, lung, colorectal and gastric cancers in Nanning City showed upward trends from 2018 to 2022, while the incidence rate of breast cancer remained stable. The standardized incidence rates of liver, lung, colorectal and gastric cancers were higher in males, and the standardized incidences of liver, lung and gastric cancers were higher in rural areas.

Keywords: malignant tumor; incidence; trend

恶性肿瘤是危害人类健康的重要慢性病,已成为全球公共卫生问题。2022年,全球新发恶性肿瘤1 996.5万例,男性标化发病率为212.5/10万,女性标化发病率为186.2/10万^[1];我国新发恶性肿瘤482.47万例,标化发病率为201.61/10万^[2],且存在城乡差距较大、地区分布不均衡等特点,防控形势严峻。南宁市恶性肿瘤发病水平在广西壮族自治区较高^[3],其中肝癌、肺癌、乳腺癌、结直肠癌和胃癌居恶性肿瘤发病谱前五位^[4]。本研究收集2018—2022年南宁市肝癌、肺癌、乳腺癌、结直肠癌和胃癌资料,了解5种主要恶性肿瘤的发病率及变化趋势,为恶性肿瘤的综合防控提供依据。

1 资料与方法

1.1 资料来源

2018—2022年南宁市肝癌、肺癌、乳腺癌、结直肠癌和胃癌新发病例资料来源于南宁市卫生健康宣传信息中心住院系统大数据平台。常住人口资料来源于广西壮族自治区统计局官网 (<http://tjj.gxzf.gov.cn>)。

1.2 方法

按照《疾病和有关健康问题的国际统计分类(第十次修订本)》(ICD-10)进行疾病编码。收集2018—2022年在南宁市内医院就诊并首次确诊为肝癌(C22)、肺癌(C33~34)、乳腺癌(C50)、结直肠癌(C18~21)和胃癌(C16)的住院病例资料,包括性别、年龄、常住地址、首次入院诊断时间、主要诊断和疾病编码等信息。采用2018—2022年南宁市常住人口数据计算粗发病率,采用2020年第七次全国人口普查数据标化;描述性分析5种恶性肿瘤病例的年龄、性别和城乡分布。采用年度变化百分比(annual percent change, APC)分析5种恶性肿瘤的发病趋势。

1.3 统计分析

采用Excel 2010软件建立数据库,采用SPSS 21.0软件统计分析。定性资料采用相对数描述,组间比较采用 χ^2 检验。采用Joinpoint Regression Program 4.9.1.0软件计算APC值。检验水准 $\alpha=0.05$ 。

2 结果

2.1 5种恶性肿瘤发病趋势

2018—2022年南宁市肝癌、肺癌粗发病率和标化发病率呈上升趋势(均 $P<0.05$);乳腺癌粗发病率和标化发病率无明显变化趋势(均 $P>0.05$);结直肠癌和胃癌粗发病率呈上升趋势(均 $P<0.05$),标化发病率无明显变化趋势(均 $P>0.05$)。见表1。

2.2 不同年龄居民5种恶性肿瘤发病率比较

2018—2022年,南宁市肝癌粗发病率在65~<70岁组最高,为62.74/10万;肺癌粗发病率在75~<80岁组最高,为107.47/10万;乳腺癌粗发病率在55~<60岁组最高,为42.19/10万;结直肠癌粗发病率在80~<85岁组最高,为76.06/10万;胃癌粗发病率在75~<80岁组最高,为28.18/10万。见表2。

2.3 不同性别居民5种恶性肿瘤发病率比较

2018—2022年南宁市男性肝癌、肺癌、结直肠癌和胃癌标化发病率高于女性($\chi^2=3\ 940.663$ 、533.248、227.448、335.578,均 $P<0.001$);男性乳腺癌标化发病率低于女性($\chi^2=8\ 175.239$, $P<0.001$)。见表3。

2.4 城乡5种恶性肿瘤发病率比较

2018—2022年南宁市城市乳腺癌和结直肠癌标化发病率高于农村($\chi^2=161.900$ 、35.272,均 $P<0.001$);城市肝癌($\chi^2=893.684$, $P<0.001$)、肺癌($\chi^2=73.170$, $P<0.001$)和胃癌($\chi^2=8.657$, $P=0.003$)标化发病率低于农村。见表3。

表 1 2018—2022 年南宁市 5 种恶性肿瘤发病率 (1/10 万)

Table 1 Incidence of five malignant tumors in Nanning City from 2018 to 2022 (1/10⁵)

年份	肝癌		肺癌		乳腺癌		结直肠癌		胃癌	
	粗发病率	标化发病率	粗发病率	标化发病率	粗发病率	标化发病率	粗发病率	标化发病率	粗发病率	标化发病率
2018	17.01	19.00	17.36	20.39	20.28	21.43	14.75	17.01	6.09	6.90
2019	20.59	23.04	19.20	22.53	22.52	23.88	17.92	20.95	7.22	8.41
2020	24.26	26.22	23.19	25.28	18.65	20.02	19.09	20.77	7.14	7.76
2021	28.36	30.24	27.51	29.43	16.95	18.04	20.44	21.84	7.87	8.41
2022	30.07	31.56	28.00	29.22	18.03	18.99	20.95	21.89	7.91	8.26
合计	24.46	26.39	23.42	25.83	19.13	20.29	18.81	20.64	7.27	7.98
APC/%	15.122	13.111	13.714	10.056	-5.129	-5.164	8.164	5.044	5.984	3.304
t 值	9.140	7.872	6.839	5.822	-1.925	-2.004	4.615	2.435	3.741	1.499
P 值	0.003	0.004	0.006	0.010	0.150	0.139	0.019	0.093	0.033	0.231

表 2 2018—2022 年南宁市不同年龄居民 5 种恶性肿瘤粗发病率 (1/10 万)

Table 2 Age-specific crude incidence of five malignant tumors in Nanning City from 2018 to 2022 (1/10⁵)

年龄/岁	肝癌	肺癌	乳腺癌	结直肠癌	胃癌
<15	0.24	0.01	0.01	0.01	0
15~<20	0	0.09	0.05	0.38	0.05
20~<25	0.46	0.23	0.37	0.37	0.14
25~<30	1.46	0.67	2.28	1.90	0.93
30~<35	6.55	1.71	7.77	3.18	1.24
35~<40	18.00	5.10	20.15	7.21	2.77
40~<45	27.30	9.24	35.02	10.31	4.95
45~<50	32.52	14.43	39.31	14.22	5.74
50~<55	40.39	24.86	37.64	21.91	8.90
55~<60	50.93	43.78	42.19	33.86	13.41
60~<65	59.20	66.63	40.42	52.34	20.70
65~<70	62.74	79.71	29.86	59.17	22.63
70~<75	58.23	94.82	19.99	67.02	26.56
75~<80	57.35	107.47	17.55	75.01	28.18
80~<85	52.05	99.06	15.61	76.06	24.68
≥85	39.84	87.86	9.52	67.95	19.25

3 讨论

2018—2022 年南宁市肝癌标化发病率高于 2020 年全国水平, 肺癌、乳腺癌、结直肠癌和胃癌低于全

国水平^[5]。南宁市肝癌标化发病率较高且呈上升趋势, 可能与南宁市乙型肝炎病毒 (HBV) 感染率较高^[6]有关, HBV 感染与肝癌发病有强相关性^[7]; 同时, 南宁市气候潮湿, 农作物更易受黄曲霉毒素污染, 增加肝癌的发病风险^[8]。肺癌标化发病率较低但存在上升趋势, 提示应持续做好控烟工作、减少环境污染。乳腺癌标化发病率较低可能与 2014 年起南宁市开展城市乳腺癌早诊早治项目和农村女性“两癌筛查”有关。肥胖增加结直肠癌发生风险, 结直肠癌标化发病率较低可能与南宁市居民肥胖发生率较低有关^[9], 其粗发病率呈上升趋势, 与我国结直肠癌发病趋势^[10]相似。南宁市种植业发达, 摄入足量蔬菜、水果是胃癌的保护因素^[11], 而胃癌粗发病率上升可能与积极推广胃癌筛查有关。

本研究结果显示 5 种恶性肿瘤发病以中老年人为主, 高发年龄均 ≥55 岁, 其中乳腺癌高发年龄相对较小, 结直肠癌高发年龄相对较大。人口老龄化是恶性肿瘤重要的危险因素, 年龄越大, 暴露于致癌物和受到基因损伤的持续时间越长, 恶性肿瘤发生风险越高^[12]。

男性肝癌、肺癌、结直肠癌和胃癌标化发病率均高于女性, 可能与不同性别在激素水平、行为心理学

表 3 2018—2022 年南宁市不同性别、城乡居民 5 种恶性肿瘤发病率 (1/10 万)

Table 3 Gender- and area-specific incidence of five malignant tumors in Nanning City from 2018 to 2022 (1/10⁵)

项目	肝癌		肺癌		乳腺癌		结直肠癌		胃癌	
	粗发病率	标化发病率	粗发病率	标化发病率	粗发病率	标化发病率	粗发病率	标化发病率	粗发病率	标化发病率
性别										
男	39.29	41.42	28.75	30.51	0.24	0.25	21.93	23.24	9.65	10.23
女	8.64	9.79	17.72	20.20	39.28	42.02	15.47	17.50	4.77	5.35
城乡										
城市	19.38	22.52	22.00	24.81	21.04	24.90	19.69	22.31	7.02	8.01
农村	34.93	40.00	26.35	33.08	15.19	15.29	16.98	20.43	7.85	9.64

和免疫功能等方面存在差异有关。男性更容易暴露于恶性肿瘤相关的危险因素，如吸烟、饮酒等不健康的生活方式会增加肺癌、胃癌等恶性肿瘤发病风险^[13]。

城乡恶性肿瘤标化发病率有所不同，农村肝癌、肺癌和胃癌标化发病率高于城市，与农村居民更易暴露于黄曲霉毒素、乙型肝炎患病率高，饮食中高盐、腌制食品较多，以及污染型企业逐渐向农村转移等因素^[14-15]有关。城市乳腺癌和结直肠癌标化发病率高于农村，可能因为城市生活节奏快、居民生活压力较大，易导致饮食、睡眠不规律，久坐不动和摄入热量过多，从而增加结直肠癌发病风险^[16]。

本研究存在局限性，未纳入门诊就诊、市外就医确诊的新发病例，可能低估了实际发病水平。建议加强高危人群的健康教育，倡导健康的生活方式；对预后较好的疾病采取早期筛查，做到早发现、早诊断、早治疗，提高恶性肿瘤患者生存质量和生存率。

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