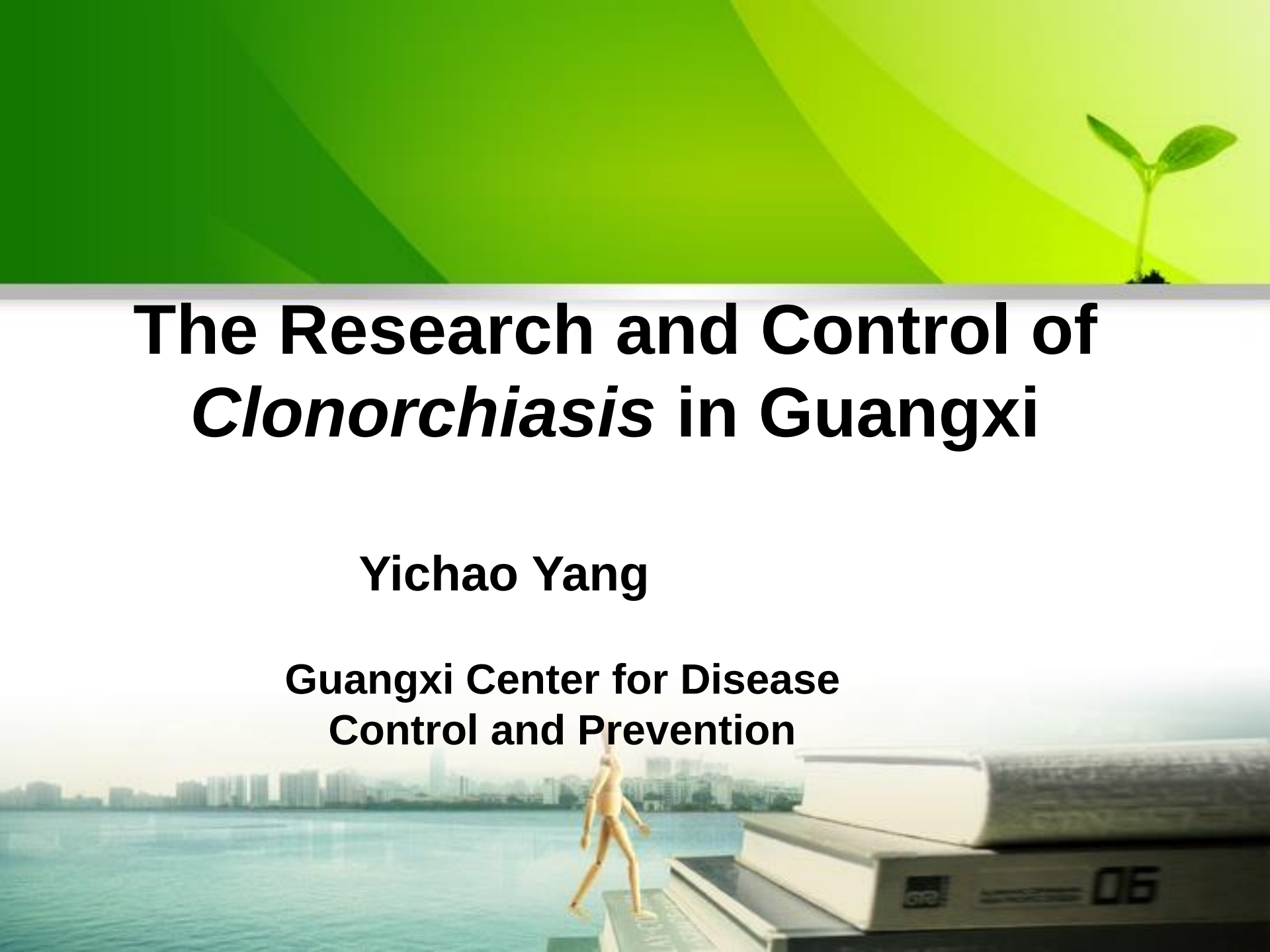
The Research and Control of *Clonorchiasis* in Guangxi

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Guangxi Center for Disease Control and Prevention



General information of Guangxi

Guangxi is located in the subtropical zone with the s pecial climate: humid, sunny, hot and rainy, which is suitable for parasites and their intermediate hosts.





Ethnic minorities

Guangxi inhabited by 12 ethnic minorities, Zhuang minority is the largest one of the 55 minorities in China.



Yi



Zhuang



Miao



Yao

Special eating habits

Raw fish, raw pork, beef, pork liver.









Research on *C.sinensis*

- **1970s: A few surveys on in some local aeras .**

- **1988-1992: The first national survey on human helminthiasis were carried out among 20 countries.**

- **1996-2004: A cooperated study on ccontrol strategy of helminthiasis between China and Korea was carried out in guangxi**

Research on *C.sinensis*

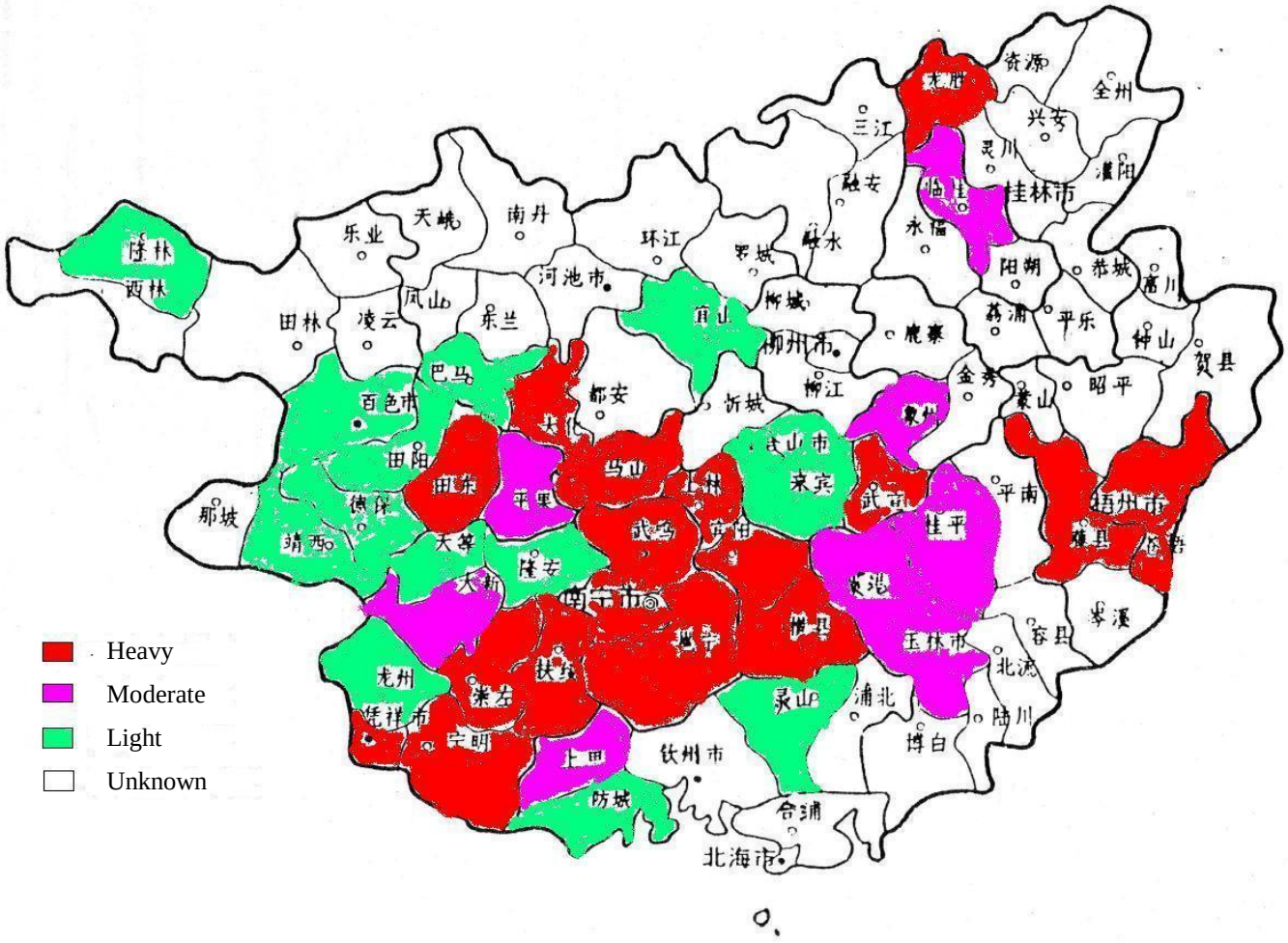
- **2012: A collaboration project with Swiss: Therapeutic effect of tribendimidine on treatment of *clonorchiasis.***

- **2011--now : MOH project :"National pilot of comprehensive control of *C. sinensis*" in Hengxian.**

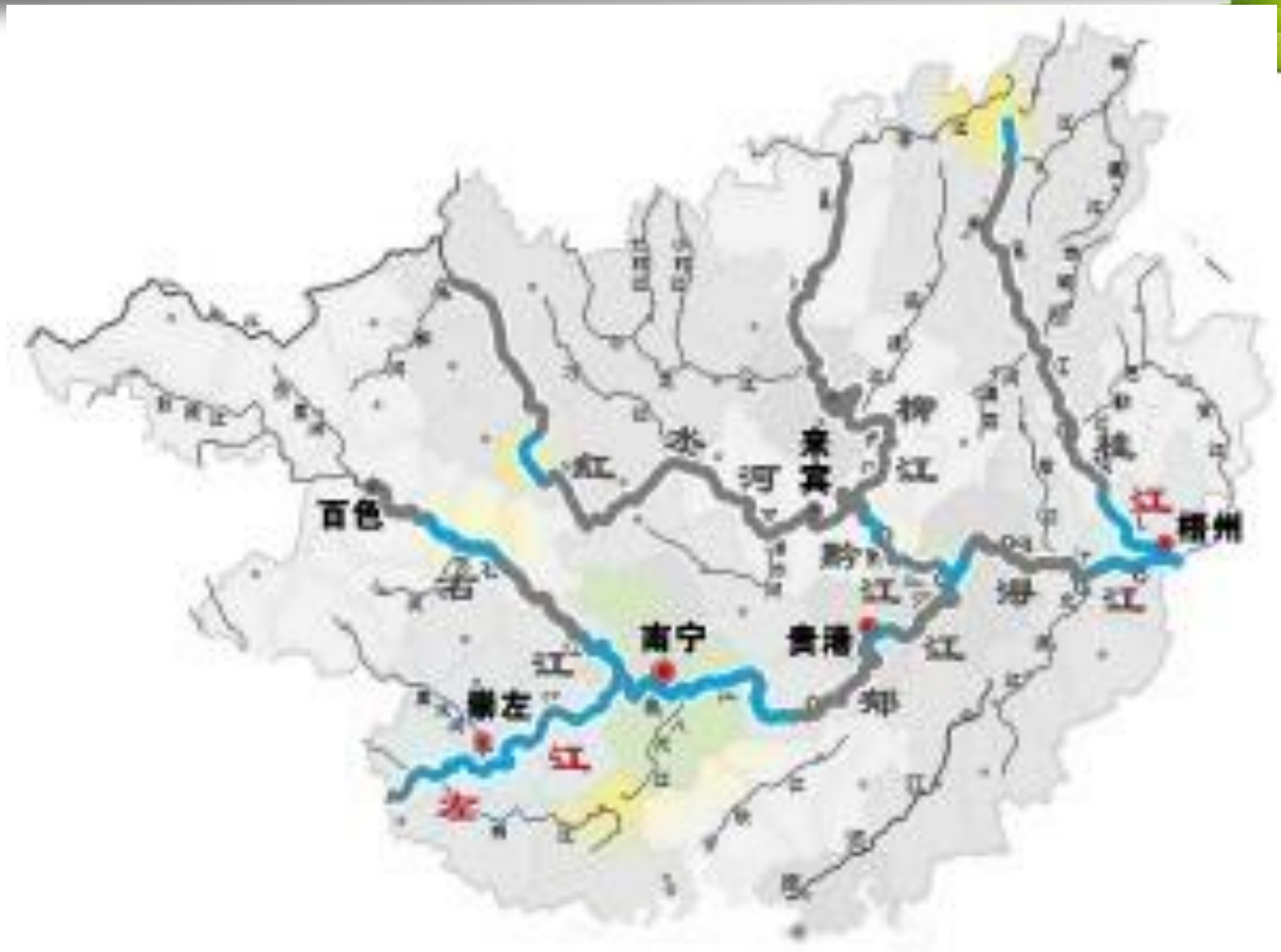
- **2011--now : China CDC project "The national researching and teaching base of *C. sinensis* " in Hengxian.**

epidemic areas

Year	No.of country
1985	23
1991	29
1994	45
1999	48
2002	52
2004	59
2006	60



epidemic river



infetion rate



The first national survey in 1992

Country name	No.of investigated	No.of people infected	Infection rate
Beiliu	2637	1	0. 04
Hepu	2070	1	0. 05
Tianyang	2559	2	0. 08
Fuchuan	2035	3	0. 15
Longan	3081	5	0. 16
Lingui	2543	5	0. 20
Heshan	3129	20	0. 64
Guixian	3153	13	0. 41
Guiping	2682	11	0. 41
Yulin	2547	16	0. 63
Fusui	2159	71	3. 29
Shanglin	2695	97	3. 60
Hengxian	2623	378	14. 41
Cenxi	2048	0	0. 00
Lingshan	2619	0	0. 00
Lingyun	3082	0	0. 00
Pubei	2606	0	0. 00
Zhongshan	2575	0	0. 00
Guanyang	2032	0	0. 00
Yizhou	3007	0	0. 00
Totel	51882	623	1. 20

Infetion rate

The second survey during 2001 to 2004

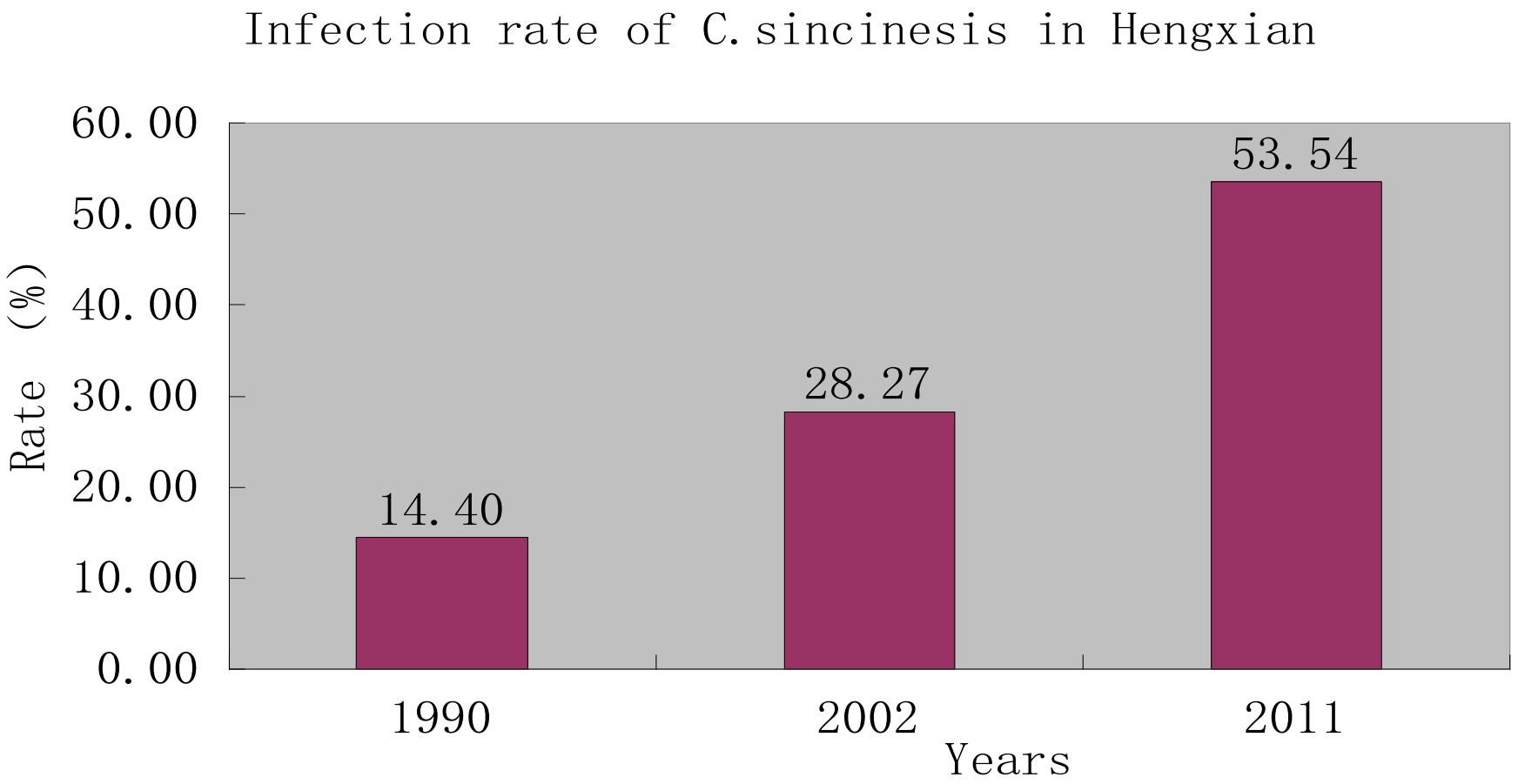
Location	Country	No.of examinated	No.of infected	Infection rate
East area	Zhongshan	1615	0	0.00
	Fuchuan	1500	0	0.00
	Beiliu	1528	0	0.00
	Subtotal	4643	0	0.00
South area	Hepu	1572	0	0.00
	Lingshan	1545	1	0.06
	Hengxian	1748	503	28.78
	Subtotal	4865	504	10.36
Central area	Guigang	1640	0	0.00
	Longan	1267	17	1.34
	Subtotal	2907	17	0.58
West area	Tiandong	1519	51	3.36
North area	Yizhou	1521	1	0.07
	Total	15455	573	3.71

Infetion rate

A results of the survey（2001-2005）

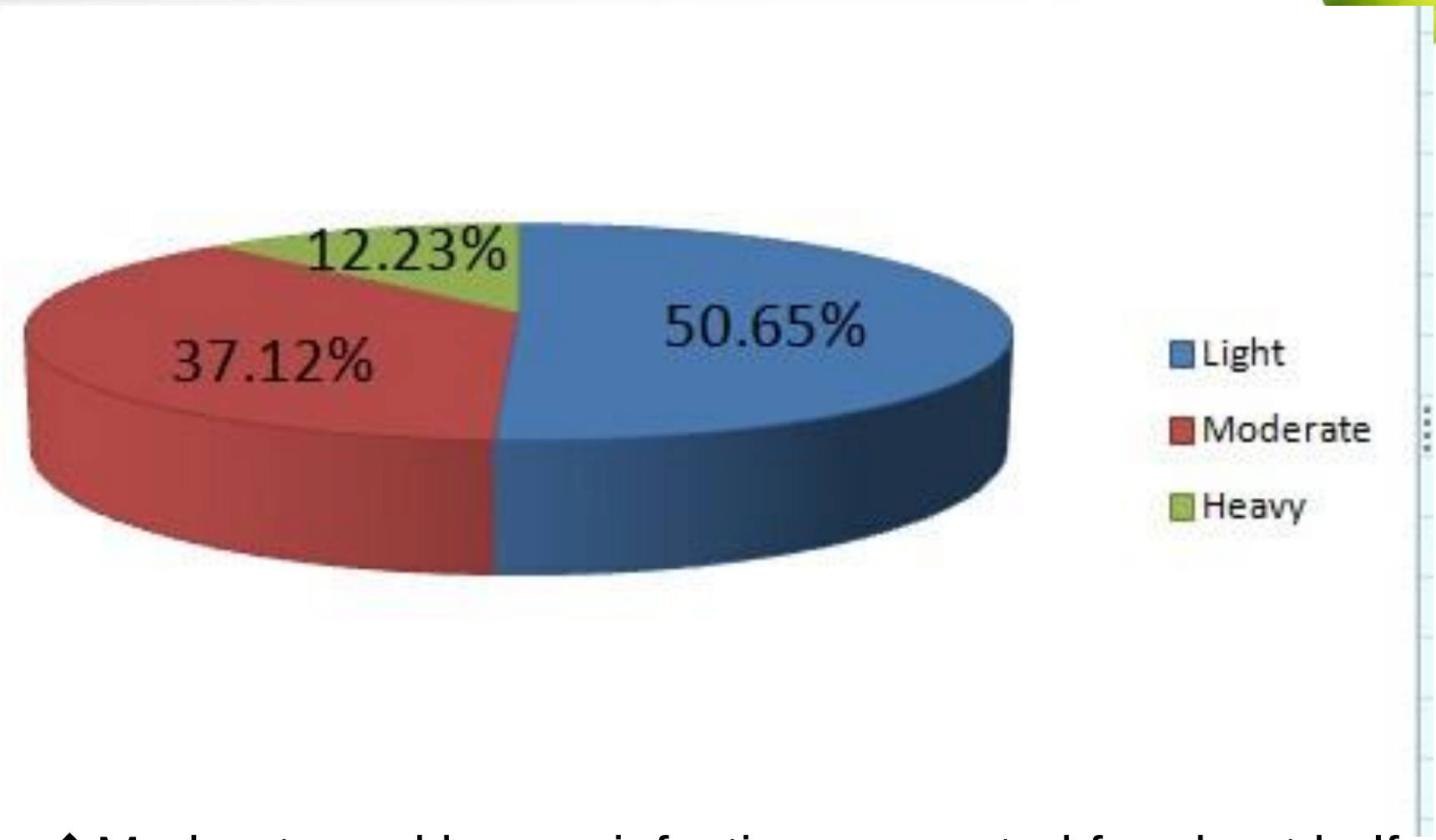
Location	No.of examinated	No.of infected	Infection rate %
Shanxu A	47	33	70.21
Shanxu B	94	67	71.27
Mashan	155	63	40.64
Suxu	200	131	65.50
Wuming	175	89	50.86
Total	671	383	57.08

Infetion rate



The infection rate is rapidly increasing. in Hengxian

Infection density ratio in Hengxian



◆Moderate and heavy infection accounted for about half

The harm to the body

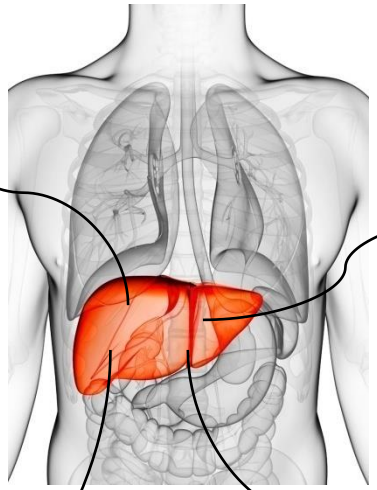
- **A B ultrasound investigation in a village in Hengxian showed (n=696)**
  - **The rate of bile duct dilation is 20.65%:**
  - **Bile duct surrounding fibrosis is 65.13% ;**
  - **Gallstones is 8.48%.**
  - **They are obviously higher than uninfected group.**
  - **More than 50 cases of ICC need to do a liver cutting operation every year in Hengxian Hospital .**

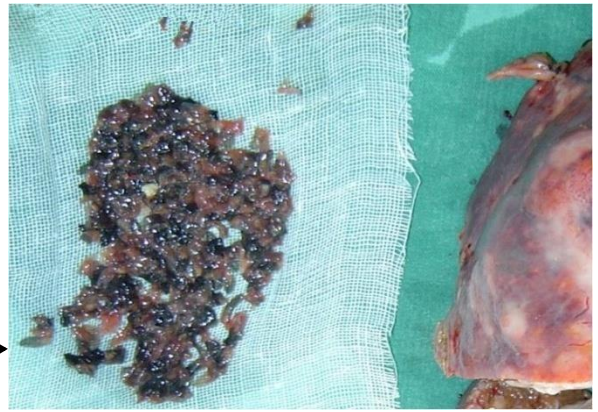
The harm to the body

Adult worms were collected from patients' liver







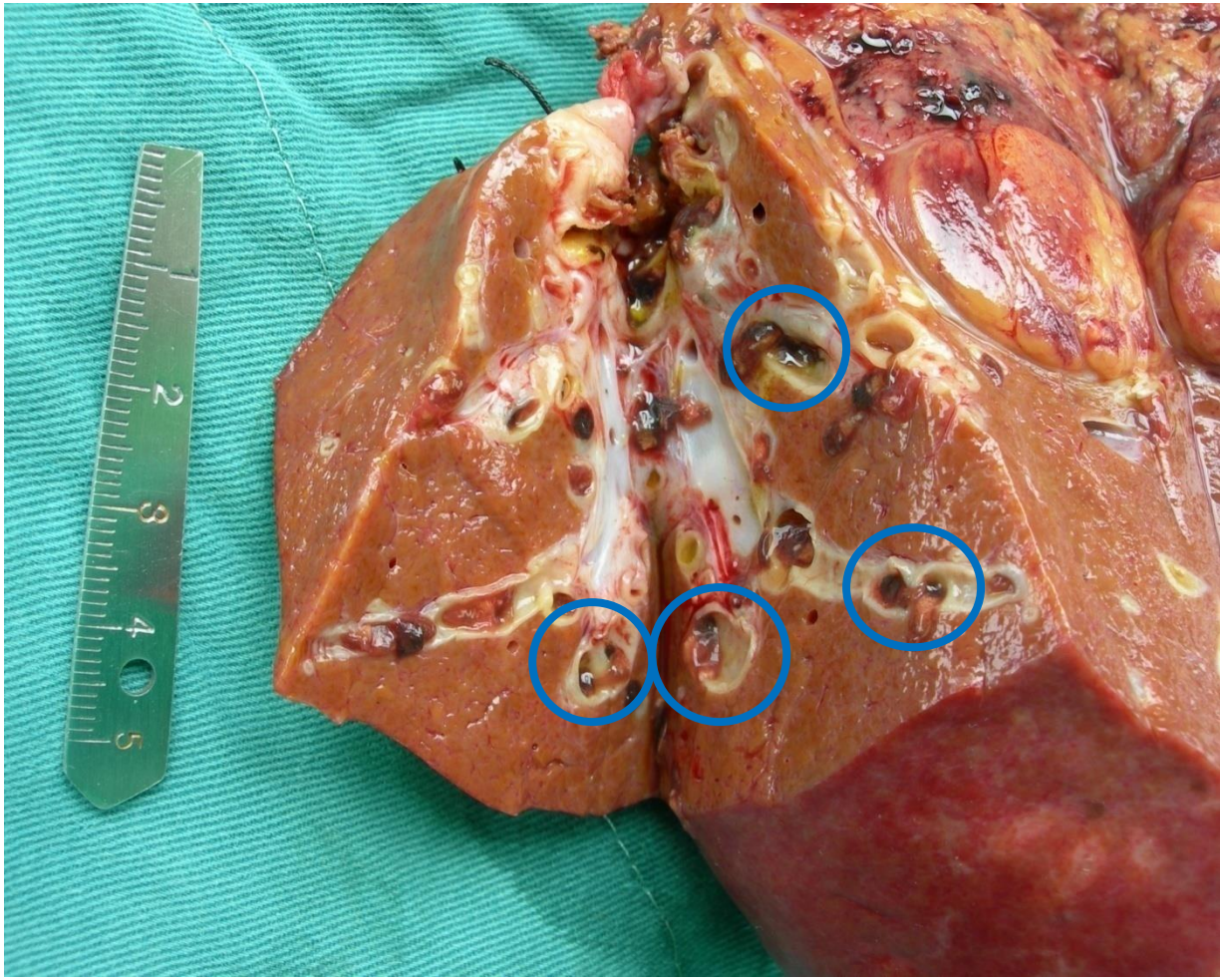




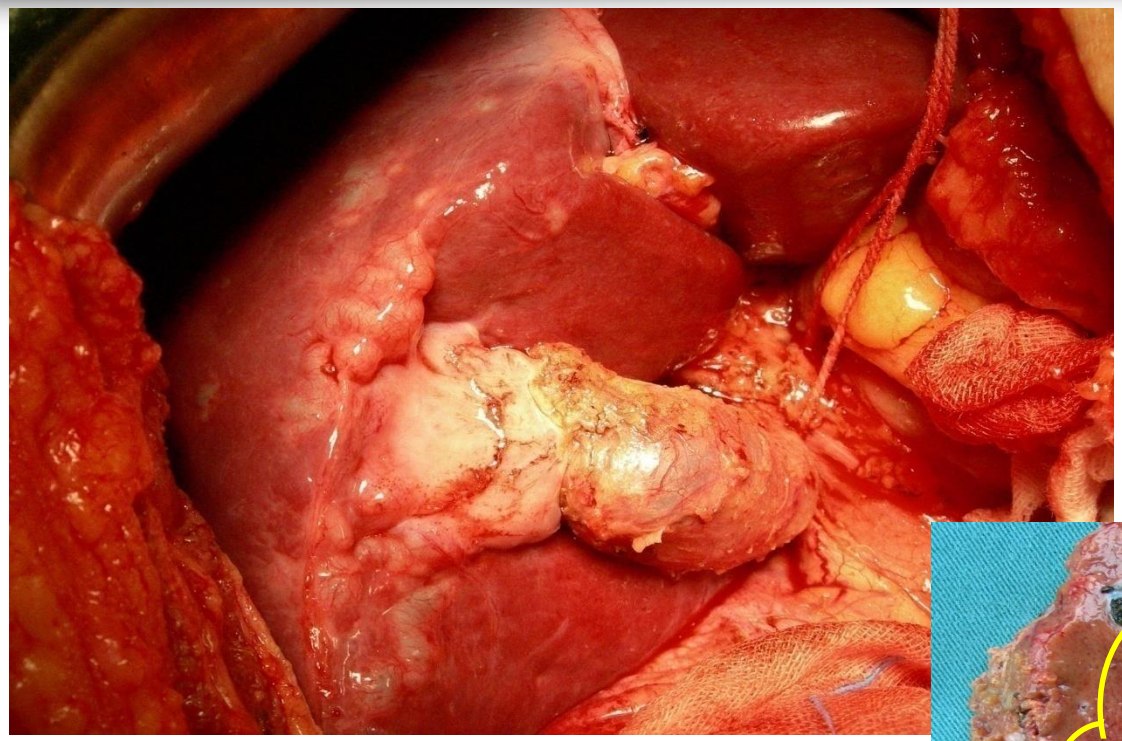
The harm to the body

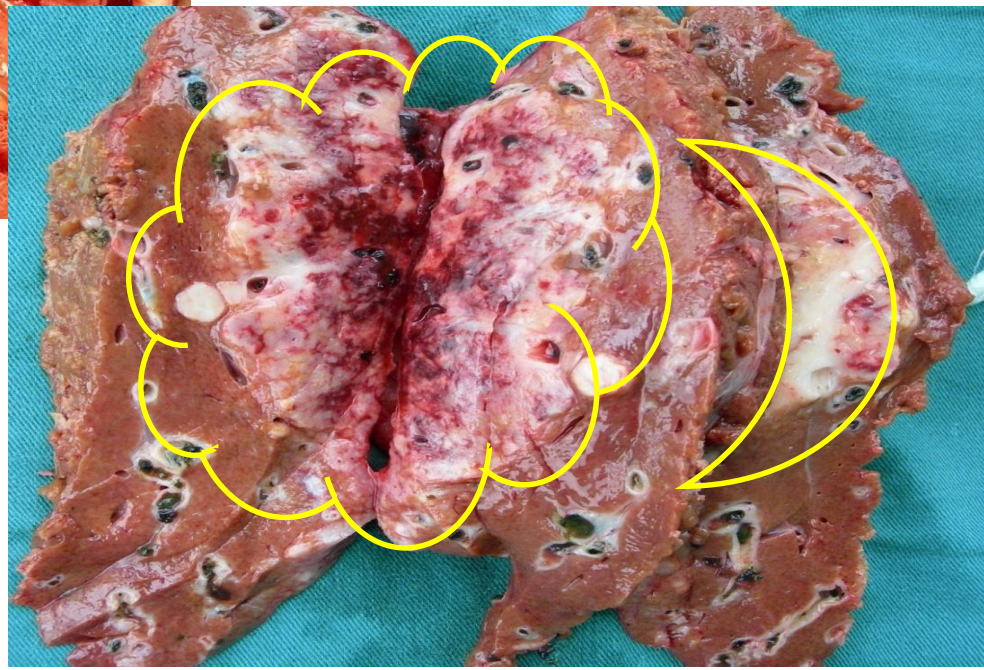
The bile duct dilated seriously in a patient of intrahepatic cholangiocarci-noma（ICC）





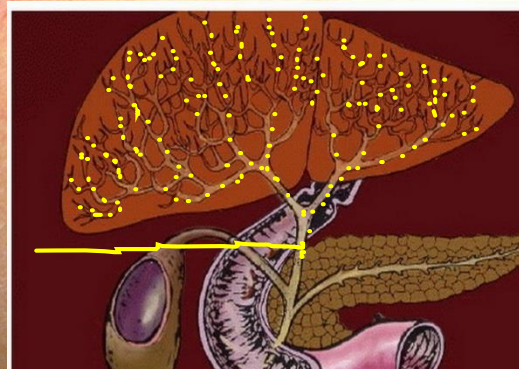
The harm to the body





The ICC case with heavy infection of *C.sinensis*

The harm to the body



Epidemic charateristics



- High infection rate and is rising rapidly.
- High infection density
- Epidemic area is quickly expanding .
- All age groups can be infected.（age <=14 infection rate is 7.95%)

risk factor:



- **1. Eating raw fish**

➢People lived on the sides along Yongjiang river and near Nanning are accustomed to eat raw fish.

Risk factor:



The Day of Eating Raw Fish







The Day of Eating Raw Fish







Culinary arts of raw fish







risk factor:

2. Intermediate host and reservoir host

Fish in the rivers, reservoirs and pools has high infection rate.





Cats and dogs are highly infected.

risk afector:

3.Water pollution

Stool is directly discharged to fishponds from the toilets



Control measures

1. Health Education and promotion





CCTV13 programs
Guangxi TV programs

Control measures

Face to face health propaganda









Control measures

2.Training courses

Training of rural doctors to improve their ability of diagnosis and treatment on *Clonorchiasis*





Control measures

3.Conducting surveillance





Control measures



4. Set-up specialist out-patient in township hospitals

5. Treatment of patients: The drug of Clonorchiasis were hand out free. So far, about 10000 people have been treated in the pilot township.


Thank you