

Cerebral injury images of HIV-infected patients found by CT Scanner

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1. Introduction

- ▶ HIV penetrates into human body and causes the deficiency of human's immune system, making human susceptible to opportunistic infections. Many authors have described cerebral injury images of HIV-infected people.
- ▶ Quang Ninh is a North Eastern province, one of the provinces with highest HIV-infected rate across the whole country.

1. Introduction

- ▶ Every year, Vietnam – Sweden Hospital of Uong Bi town has treated opportunistic infections for many AIDS patients.
- ▶ CT Scanner services have been used for HIV/AIDS patients to find out cerebral injury images.

*** Objective of the research**

Look at cerebral injury images of HIV-infected people in CT Scanner film and find out related factors such as age and sex.

2. Research subjects and Research Methodology

2.1. Research subjects:

All patients with positive HIV test results and cerebral injury images seen in CT Scanner films.

◆ **Sample size:** n= 49

◆ **Criteria for sample selection:**

- Cerebral injury and positive HIV test result

2. Research subject and Research Methodology

◆ Exclusive criteria:

- Have cerebral injury and negative HIV test result
- Have no cerebral injury and positive HIV test result

2. Research Subject and Research Methodology

◆ Criteria for assessing cerebral injuries:

- Injury density in compared with that of normal cerebral tissues.
- Injury shape (ribbon/strip, spot, round...).
- Cerebrum swelling.
- Injury location.
- Occupied or space-taking image.
- Image after injecting IOBRIX 300 at the dose of 1 ml/kg into veins (ANPHAT Pharmaceutical Company)

2. Research subject and Research Methodology

2.2. Research Methodology: Injury description using horizontal slide

2.3. Data processing method:

2.4. Research place: Vietnam-Sweden Hospital of Uong Bi town

2.5. Research period: From 13 November 2003 to 14 August 2005

3. Results and Discussion

3.1. Sex:

- Male: 43/49 (87,76%)
- Female: 6/49 (12,24 %)

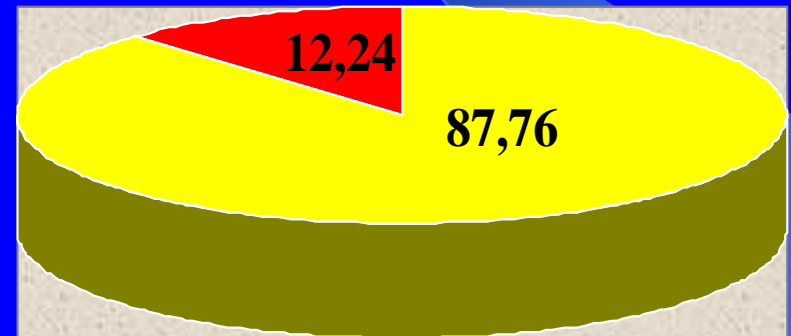


Diagram 1: Sex

3. Results and Discussion

3.2. Age:

No	Age group	N	%
1	20-29	32	65,31
2	30-39	14	28,57
3	> 40	03	6,12
Total		49	100,0

3. Results and Discussion

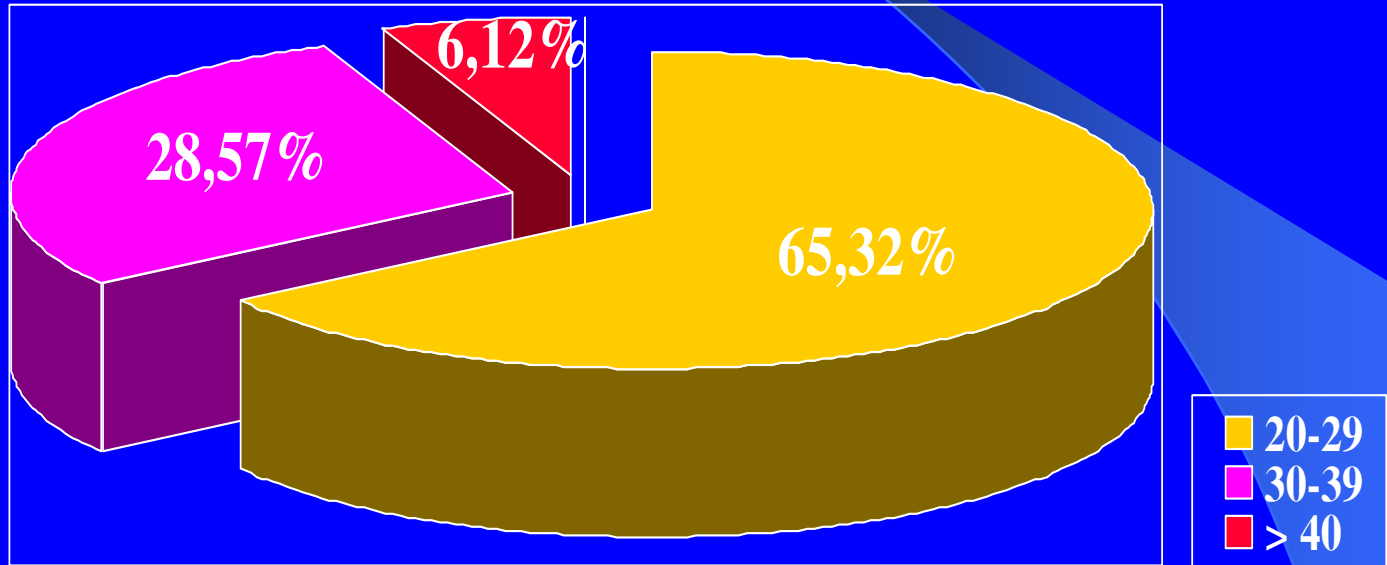


Diagram 2: Age group Distribution

3. Results and Discussion

3.3. Density:

In 42 cases with neurological infection sign, cerebral injury images showed similar density with normal cerebral tissues (equivalent to grey matters).

→ Some authors mentioned that there is a decreased density of cerebral injury compared to normal cerebral tissues (equivalent to cerebrum swelling)

3. Results and Discussion

3.4. According to injury shape:

No	Type of Injury	Total number of patients	Results	
			N	%
1	Ribbon/ Strip shape	42	32	76,19
2	Round shape	42	21	50,0
3	Spot	42	06	14,29
4	Combine 2 injury shapes	42	11	26,19
5	Combine 3 injury shapes	42	03	7,14

3. Results and Discussion

In 49 cases selected into the research, 42 cases have typical neurological infection signs, among which 76,19% of the cases have ribbon-shaped injuries; 50% have round-shaped injuries; spot-shaped or 2-3 injury shapes combined are seen less frequent.

3. Results and Discussion

3.5. Level of cerebrum swelling:

No	Level of cerebrum swelling	Total number of patients	Results	
			N	%
1	Slight cerebrum swelling	42	26	62,90
2	Medium and serious cerebrum swelling	42	16	38,10

3.6. Occupied or space-taking sign: Level and location of space-taking/ occupation are in accordance with level of cerebrum swelling.

3. Results and Discussion

3.7. According to the number of injury locations:

No	Number of injury locations	Total number of patients	Results	
			N	%
1	Injured in 2 places	42	02	4,76
2	Injured in more than 3 places	42	40	95,24

3. Results and Discussion

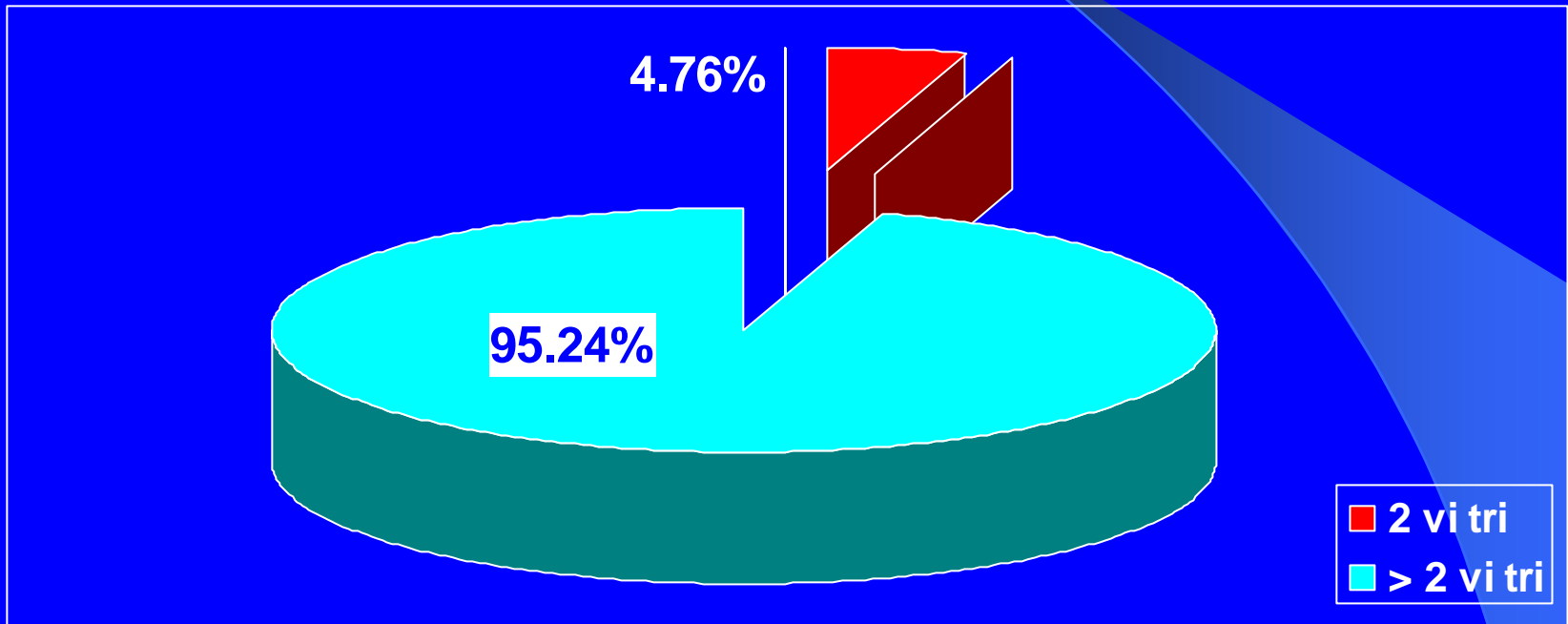


Diagram 3: Distribution as per the number of injury places

3. Results and Discussion

3.8. Take CT Scanner with IOBRIX 300 injection at the dose of 1 mg/kg.

Among 42 cases having neurological infection signs, 35 cases did CT Scanner with IOBRIX 300 injection and drugs were absorbed strongly in all injury shapes and in all of these 35 cases.

3. Results and Discussion

3.9. Other combined injury:

No	Combined Injury	No of patients	Result	
			N	%
1	Chronic Meningitis	49	01	2,04
2	Combined with cranium base sinusitis	49	02	4,08
3	Trauma with lots of bleeding inside cerebrum cavity	49	06	12,44
4	Cerebral haemorrhage in several places, oozing into ventricle	49	01	2,04

4. Conclusion

* Conclusion:

Through studying 49 HIV/AIDS patients with cerebral injury seen in CT Scanner film, we have come to the following conclusions:

- ✓ Sex: Majority are male: 87,76 %; Female: 12,24 %.
- ✓ Age: The 20-29 age group makes up high percentage of the HIV/AIDS patients studied: 65,31%.

4. Conclusion

- Cerebral injury images found in CT Scanner film:
 - √ Injuries have similar density with normal cerebral tissues.
 - √ Majority of the injuries are Ribbon/ strip-shaped: 76,19 %; round shape, spot, 2-3 different shapes combined.
 - √ Majority of patients have slight cerebrum swelling.
 - √ Occupation or space-taking sign depends on the level of cerebrum swelling.

4. Conclusion

- √ Injuries were pervasive and scattered in many places inside cerebrum.
- √ IOBRIX 300 was absorbed strongly in all injury shapes and in all of the 35 cases having CT Scanner with IOBRIX 300 injection
- √ In addition, there are some other combined injuries such as chronic meningitis, cerebral injury combined with cranium base sinusitis, trauma with lots of bleeding in cerebral cavity, cerebral haemorrhage in many places oozing into ventricle.

4. Conclusion

Recommendations:

- If a patient comes to the hospital with neurological signs and CT Scanner films show prominent cerebral injuries as described above, it is recommended to have HIV test done for that patient.
- Collaborate with some other specialized departments to study more in-depth possible causes of opportunistic infections such as candida, parasite, bacteria..., using image diagnosis like CT Scanner, and microorganism, parasite testing...



Thank you very much for your attention