



**XXIX International Congress of the EAPCCT
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Epidemic of lead poisoning caused by adulterated marijuana

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Sign - **Friday 15 May 2009 Congress Room 1**

Session Chair: Michael Greenberg, Allister Vale

17.15 Epidemic of lead poisoning caused by adulterated
marijuana (227) - Bergmann I, Busse F, Stumvoll M,
Hentschel H

Mister chairman,

Ladies and gentleman,

Dear colleagues,

Adulteration is defined as the act of making any commodity
impure by admixture of other ingredients.

In the case of illegal drugs sold on the street, adulteration is
generally in the form of inert or harmless compounds, but as
we will see also deadly poisons have sometimes been sold.

Objective: Epidemic of Lead Poisoning

- Unexpectedly, many young people fell ill with occasionally severe symptoms of lead poisoning in the area around the city of Leipzig (Saxony, Germany) in summer and autumn 2007.
- None of these persons was occupationally exposed to lead.

The PIC at Erfurt serves four German federal states with about 10 million inhabitants.

Normally, we advise one or two requests concerning lead poisonings of occupationally exposed persons each year.

Unexpectedly, many young people fell ill with occasionally severe symptoms of lead poisoning in the area around the city of Leipzig (Saxony, Germany) in summer and autumn 2007.

None of these persons was occupationally exposed to lead.

Objective: Epidemic of Lead Poisoning

- The source of lead uptake had to be elucidated.
- Decisions for further diagnostic and therapeutic measures were to be decided.

At first, a 21 year-old woman has been affected by a lead-induced paresis in August 2007, at which the police suspected a criminal background.

Further obscure poisoning cases followed, so that the source of lead uptake had to be elucidated.

At the same time, we contacted the internal department of university hospital and the local health authorities to decide further diagnostic and therapeutic measures.

Metallic Lead in Marijuana Samples




At the beginning of October 2007, the hints were condensed, that the cause of poisonings was possibly the use of cannabis.


Finally, a patient brought a sample, that undoubtedly contained metallic lead.

The poisonings were caused by repeated inhalation of lead vapor by smoking marijuana.

Information of the Public



Stadt Leipzig
Der Oberbürgermeister



Media Information
Medieninformation

Leipzig, 7. November 2007
722/Leit/ mmb

7 November, 2007

Alert against adulterated marijuana

Die Stadt Leipzig und die Polizeidirektion Leipzig informieren:

Warnung vor kontaminiertem Marihuana

Aus aktuellem Anlass warnen die Stadt Leipzig und die Polizeidirektion Leipzig vor bleiverseuchtem Cannabis und Marihuana, das seit einiger Zeit im Leipziger Raum im Umlauf ist. In den vergangenen Wochen mussten bislang 19 bekannte Fälle aus Leipzig und dem Leipziger Umland mit Bleivergiftungen akutmedizinisch behandelt werden.

Bei den ersten Patienten war die Bleiquelle anfangs im Zusammenhang mit Cannabis- bzw. Marihuana-Konsumation kontaminiertes Marihuana oder Cannabis zu sehen. Ein mit Blei versetzter „Stoff“ im Umlauf befindet.

So far 19 cases of lead poisoning became known ...

A statement of the local health authorities and the police was released to alert the consumers to the danger of poisoning.

Simultaneously, it was established an office in the public health department for the anonymous determination of the blood lead level.

The price was twenty-two Euros for one measurement of one sample.

Information of the Public



Joint Poison Information Centre
of Mecklenburg-West Pomerania,
Saxony, Saxony-Anhalt, and Thuringia



Gemeinsames Gif tinformat ionszentrum
Der Länder Mecklenburg-Vorpommern, Sachsen, Sachsen-Anhalt und Thüringen

Patient Information Sheet to Lead Poisoning

Patienteninformation zur Bleivergiftung

- The PIC released a patient information sheet to frequently asked questions of lead poisoning such as
- How lead gets into the organism?
 - How lead behaves in the body?
 - How significant is the blood lead level?
 - Which complaints and symptoms advert to a lead poisoning?
 - Which damage of organs the lead can trigger?
 - How a lead poisoning is treated?

Measurements of Blood Lead Level (BLL)

- Blood was collected anonymously from 600 marijuana consumers:
 - Sex: 74 % male, 26 % female
 - Age: 15...56 years (mean 26,9)

In summary, taking of blood samples has been carried out at 600 persons from November 2007 to September 2008. Three quarters of them were young men such as many students of the University of Leipzig.

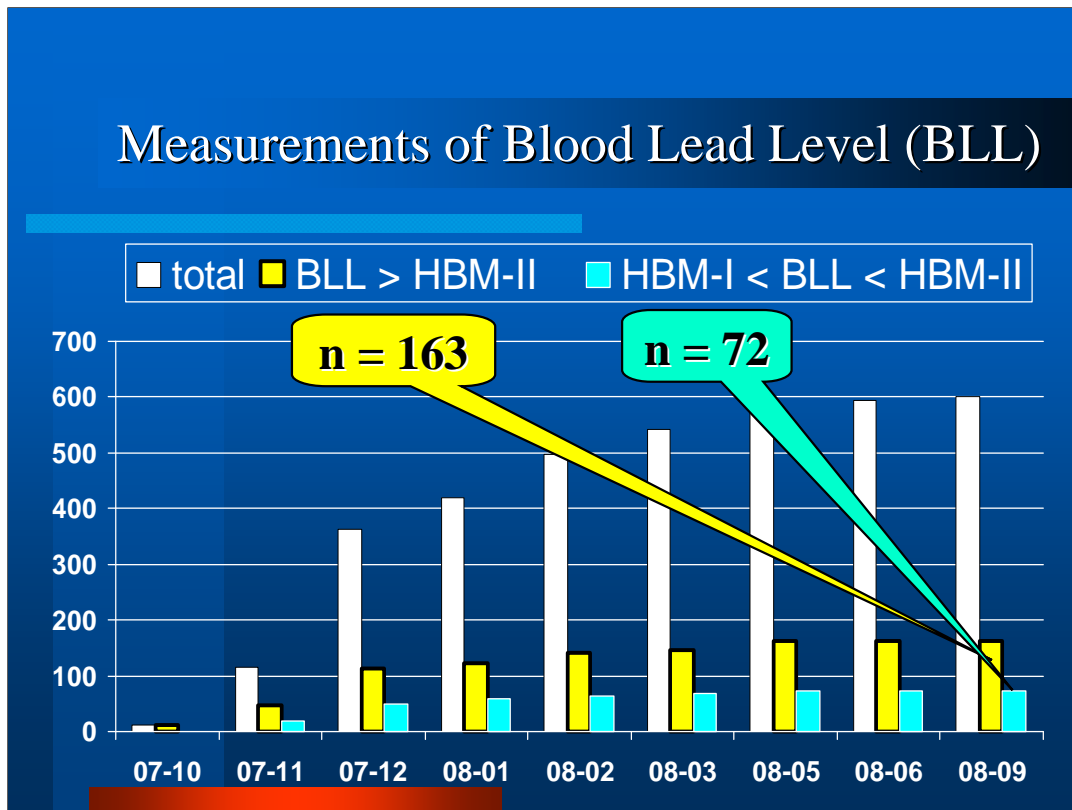
Thresholds of Blood Lead Level in Germany

➤ Human Biomonitoring Values (HBM)

| Population group | HBM-I | HBM-II |
|---|----------|----------|
| Children 12 years and Woman of child-bearing age | 100 µg/L | 150 µg/L |
| Others | 150 µg/L | 250 µg/L |

For the assessment of blood lead levels the German Human Biomonitoring values have been used.

These values have been defined on the basis of the German Environmental Survey of the Federal Environmental Agency.

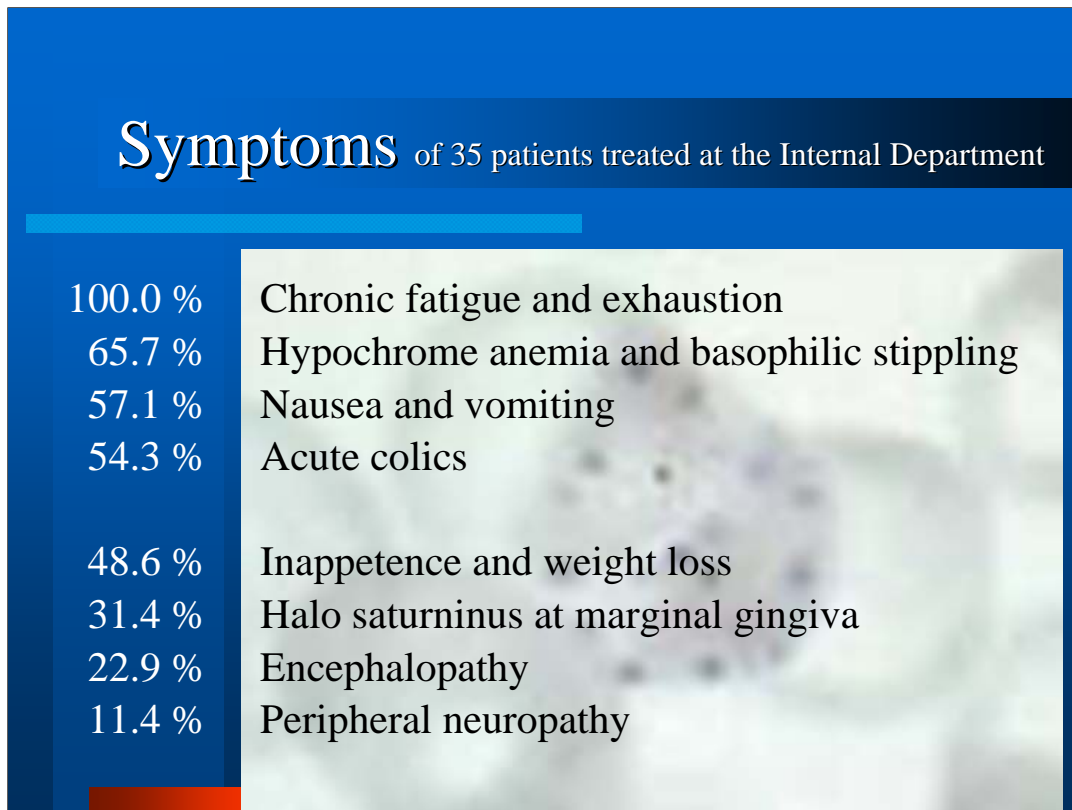


This slide shows the cumulative development of taking blood samples over one year.

Blood lead level of 163 samples (corresponding to 27 %) were over the German Human Biomonitoring value II, which is a threshold value for intervention.

The highest blood lead level measured was 4570 µg/L.

Further 72 samples (corresponding to 12 %) had blood lead levels over Human Biomonitoring value I, which is the threshold value of basic exposure of the German population.



This slide shows the frequency of symptoms among 35 patients, which were treated at the internal department of the university hospital of Leipzig.

Due to the uncertainty of the consumers' histories it was impossible to establish a correlation between the blood lead level, the frequency of consumption and the severity of symptoms.

A majority of patients suffered recurrent intestinal cramps. By mistake exploratory laparotomy was carried out in one patient.

In some other patients a malignancy of the haematopoiesis was suspected until such time as blood level was known.

Guideline for the chelator treatment

- If blood lead level was
 - < HBM-I no treatment required
 - > HBM-I further controls required
 - > HBM-II chelator treatment required
 - man > 250 µg/L
 - woman > 150 µg/L
- CHEMET™ (Succimer) was used
100 mg 3 times daily over four weeks.

Normally, a lead poisoning is treated by oral administration of SODIUM 2,3-DIMERCAPTO-1-PROPANESULFONATE (DMPS; Dimaval™) in Germany. Unfortunately, DMPS was not available in 2007 and 2008. Therefore, all persons with blood lead level above HBM-II value were treated for at least four weeks with succimer. After that, the treatment was interrupted for four weeks and the blood lead level was measured at the end of this period. When it was risen over the HBM-II value, the patient was treated again for four weeks.

Conclusions

- Drug abuse should be considered in otherwise unexplained poisoning symptoms.
- Adulteration of illegal drugs may cause unexpected mass poisoning.
- The cooperation of treating physicians, hospitals, PIC, and local health authorities is absolutely necessary in such a situation.

In conclusion, we have learned from this occurrence that

- drug abuse should be considered in otherwise unexplained poisoning symptoms;
- adulteration of illegal drugs may cause unexpected mass poisoning

and finally that

- in such a situation the cooperation of treating physicians, hospitals, PIC, and local health authorities is absolutely necessary.

Many thanks for your attention

Poison Emergency Call Erfurt

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