

# **Medical assessment of victims of human rights abuses**

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## **Prevalence of Torture**

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- Migration, civil wars and other conflicts in various regions of the world have led to a drastic increase in the number of displaced persons and refugees. Associated with this development is an increase in the number of torture victims seeking asylum.
- Amnesty International Annual Report 1997: 53% (115 out of 215 countries) were practicing maltreatment and/or torture.

Methods of torture in a sample of 319 survivors of torture:  
(Torture , IRCT 1a/2001: p.11)

<u>Method</u>	<u>%</u>	<u>Method</u>	<u>%</u>
Beating	100	Burning	13.7
Threats	77.1	Falanga	9.7
Electric torture	46.7	Rope bandage	9.4
Blindfolding	32.9	Telephone	7.2
Mock execution	27.9	Forced standing	5.9
Water asphyxiation	16.9	Throwing urine or feces on victims	5.0
Isolation	15.7	Medicine administration	3.8
Starvation	15.7	Lifting by hair	2.5
Sleep deprivation	15.4	Needles under nails	2.5
Hanging	14.1	Water deprivation	1.6
Sexual torture	13.8	Forced extraction of teeth	1.6
Burning	13.7	Deprivation of medical care	1.6

**Documentation**

- Physical torture produces a group of acute symptoms and visible signs, mostly secondary to the physical traumatism
- The survivors present a variety of symptoms of different body systems
- The amount of chronic or late sequelae is related to the type and intensity of the method applied

## **Documentation**

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- **Medical testimonies in asylum process for objectivation of alledged torture**

*(Mirzaei et al. The life of refugees. Lancet 358: 1102)*

- **Diagnostic modalities for evaluation of torture sequelae are basic part of the work in treatment centers for torture victims**

*(Mirzaei et al. Medical documentation of torture and world policy. BMJ 2002)*

## **Documentation**

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### Limitations:

- Most of the symptoms and signs resolve spontaneously or under influence of therapy
- The torturer wants to avoid visible body marks
- Torture happens mostly in the first weeks of imprisonment
- The time between exposure to torture and medical examination is crucial, after a few weeks there is not enough physical evidence to establish a causal relationship

**External injuries**

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**External injuries**

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## **Sequelae of torture**

- **There is no distinct division between physical and psychological torture methods**
- **Physical torture certainly has a number of physical sequelae, but its real purpose is its psychological effect**

*Mirzaei et al. Progress in Posttraumatic Stress Disorder Research.  
Nova Science Publishers, Ed.: Corales T.A. 2004 (in press)*

## **Limitation of conventional x-ray for evaluation of bone lesions**

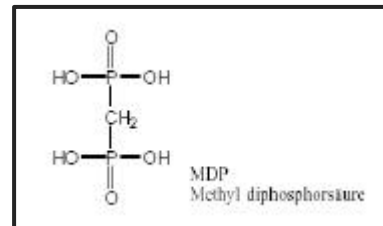
### **Conventional x-ray, CT:**

- **There exist not always a bone fracture**
- **To visualize a pathologic bone process there must be at least a change of 30-50% in the bone mineral compartment**

## Basic of bone scintigraphy

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- Demonstrating bone metabolism depending on vascularisation and thickness



- Diphosphanate complexes are absorbed up to 50% of the injected dose during 2-6 h p.i. (550 MBq, etwa 15 m Ci)

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## Indications for bone scintigraphy

(<http://www.ogn.at/skelettszin.html>)

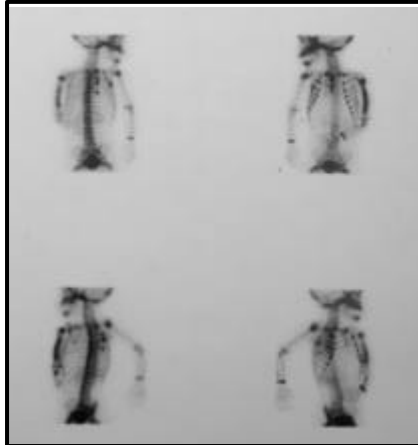
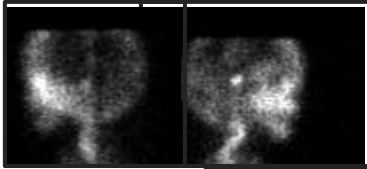
- Search for metastases
- Detection of primary benign and malignant tumors
- Evaluation of osteomyelitis
- Evaluation of vascular disorders, avascular necrosis, bone infarction, Algodystrophy (M. Sudeck)
- Evaluation of trauma (battered child syndrom\*)
- Joint prosthesis
- Heterotopic bone formation
- Metabolic bone disease
- Arthropathy
- Musculoskeletal pain of unknown origin

(\*Mirzaei et al. Bone scintigraphy as the primary investigation in cases of suspected child abuse. *RadioGraphics* 2003)

## **Battered child syndrom**

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f, 10 months



m, 11 months



## **Bone scintigraphy in screening of torture survivors**

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*Mirzaei S, Knoll P, Lipp RW et al. Lancet 1998; 352: 949-951*

- 25 torture victims of 12 different countries (3 f, 22 m, 19-46 y, mean age 29.7 y )  
inflicted trauma 6-24 months before the investigation, in one case 5 y:

**Group A) Torture with hard objects**  
(n= 12)

**Group B) Torture with kicks and fists**  
(n=13)

## **Bone scintigraphy in screening of torture survivors**

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*Mirzaei S, Knoll P, Lipp RW et al. Lancet 1998; 352: 949-951*

### **✍ Results:**

- **Gruppe A: Pathological bone lesions in all patients, with pathologic result in x-ray only in 5 cases**
- **Gruppe B: Pathological bone lesions in 7/13, no pathological finding in x-ray**

✍ **Similar results by Lök et al. (Lancet 1998; 352)**

## **Bone scintigraphy in screening of torture survivors**

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*Mirzaei S, Knoll P, Lipp RW et al. Lancet 1998; 352: 949-951*

- **Possible explication of the pathological bone lesions:**
  - **Stress fracture**
  - **Periostal reaction (lesion of periost, subperiostal haematoma)**

✍ **95% of all scintigraphic detected bone lesions heal up to three years**  
*(Szaz I, et al 1981)*

## **Bone scintigraphy in screening of torture survivors**

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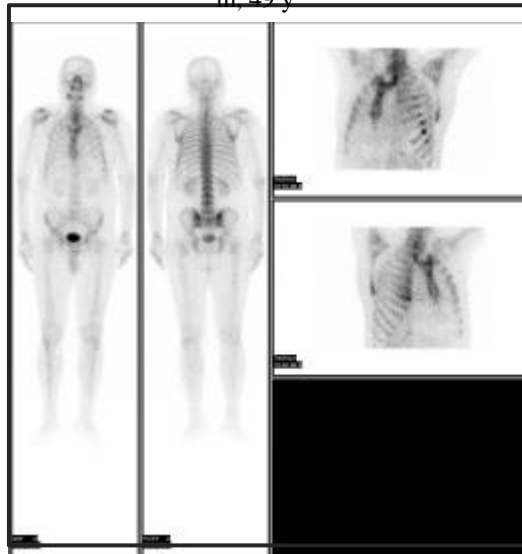
*Mirzaei S, Knoll P, Lipp RW et al. Lancet 1998; 352: 949-951*

Our preliminary results confirm the limited studies undertaken with victims of torture elsewhere and suggest that bone scintigraphy is a highly sensitive unique tool to demonstrate trauma which can be consistent with the allegation of maltreatment made by asylum seeker - at least with hard objects - for a period of at least 1-2 y after traumatisation and is also of great value in cases of minor traumatisation.

## **Traumatology: case example**

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m, 49 y



**Bone scintigraphy in screening of torture survivors : case 1**

*Mirzaei S, Knoll P, Lipp RW et al. Lancet 1998; 352: 949-951*

m, 29 y



**Bone scintigraphy in screening of torture survivors : case 3**

*Mirzaei S, Knoll P, Lipp RW et al. Lancet 1998; 352: 949-951*

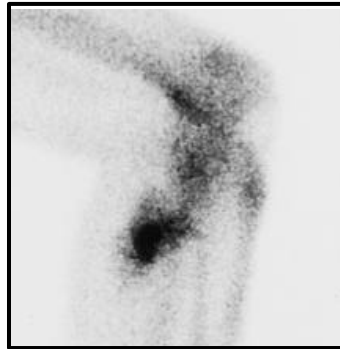
m, 29 y



**Bone scintigraphy in screening of torture survivors : case 6**

*Mirzaei S, Knoll P, Lipp RW et al. Lancet 1998; 352: 949-951*

m, 24 J



**Posttraumatic stress disorder (PTSD)**

## **Posttraumatic Stress Disorder (PTSD)**

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*Mirzaei et al. Progress in Posttraumatic Stress Disorder Research. Nova Science Publishers, Ed.: Corales T.A. 2004 (in press)*

Contrary to the physical effects of torture, the psychological symptoms are persistent, with symptoms such as: anxiety, panic, irritability, rage, insomnia, nightmares, memory difficulties, lack of initiative, apathy, social withdrawal, helplessness, affective lameness and flash backs of the traumatic event even several months or years after the torture (>>> PTSD)

### **Group of 44 torture victims (2 f, 42 m, mean age 32.3 y )**

<b>PTSD</b>	<b>90.9%</b>
<b>Only PTSD</b>	<b>22.7%</b>
<b>Major Depression/ Dysthymie</b>	<b>59.1%</b>
<b>Anxiety disorder</b>	<b>20.4%</b>
<b>Psychotic symptoms</b>	<b>9.1%</b>

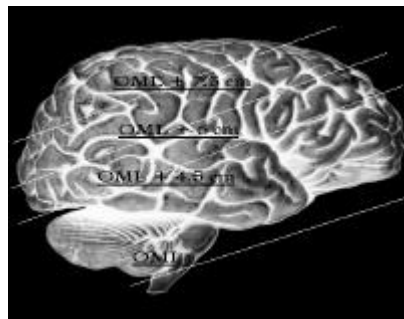
*Wenzel T, ..., Mirzaei S, et al. Psychopathology 2000; 33:292-296*

## **Posttraumatic Stress Disorder (PTSD)**

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*Mirzaei S, et al. Neuropsychobiology 2001; 43:260-264*

- We examined the cerebral regional distribution of <sup>99m</sup>Tc HMPAO in 8 patients suffering from PTSD and in 8 healthy controls



## **Posttraumatic Stress Disorder (PTSD)**

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*Mirzaei S, et al. Neuropsychobiology 2001; 43:260-264*

- Regional blood flow was markedly more heterogeneous in patients suffering from PTSD than in healthy controls
- Severe psychological trauma induced by torture can cause neurobiologic alterations that may contribute, even years after the original trauma, to a number of complaints commonly expressed by patients suffering from PTSD

## **Determination of age**

- Determination of skeletal age in children aged < 14 years:
  - **At current stage of knowledge, it is not a medico-legal issue!**

### **Conclusion I**

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- ✍ **Bone scintigraphy is superior to x-ray for detection of occult bone lesions due to physical mistreatment**
- ✍ **Functional neuroimaging in patients with PTSD can provide us with informations for better understanding of the disease with possible therapeutic implications**

## **Conclusion II**

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✍ **Since torture can involve different organs, the examination of torture victims for evaluation and documentation of torture sequelae needs a multidisciplinary cooperation**

*Mirzaei et al., Medizinische Aspekte der Objektivierung von Folterfolgen.*

*WKW 2004; 116: 568-574.*

✍ **Central part of the examination should be:**

✍ **Clinical Examination and proper history taking**