Whole body bone scintigraphy after parachute accident

A 24-year-old female professional athlete and occupational sport therapist was injured in July 2004 while parachuting from a tower in Moscow [1]. The equipment failed to open completely and she suffered various contusions to the limbs and head and was unconscious for an unspecified period of time. After primary medical aid, the young Austrian woman was immediately transferred to a neurological center in Austria.

When the patient arrived she had developed a psycho-organic syndrome; memory and alertness were markedly reduced. MRI presented small contusional bleeding in the right temporal brain, which tendentially resolved at the next control visit, corresponding to a slight clinical improvement of the patient. Conventional radiological examination failed to prove bone injury.

On the 12th posttraumatic day a gamma camera examination of the whole body was performed after i.v. application of 600 MBq ^{99m}Tc TECEOS as a bone tracer. Fractures of the superior branch of the os pubis and the right ileo-sacral joint were localized and the consequences of contusional trauma were observed in the vertebral column [2], near the symphysis pubis and in bone bruises of both knees (Fig.).

The usefulness of radionuclide bone imaging throughout the clinical spectrum of osseous trauma [3] has previously been emphasized. Bone injuries in parachute accidents may often involve the total body region, which is easily imaged by a skeletal scan. The main advantage of this method is seen in the fact that cerebral commotion and the development of posttraumatic organo-psychic disorders hinder communication with the patient when establishing a detailed medical report. Possible fracture sites could be left uninvestigated. The possibility of using bone scans – comparable to the indication at the battered child syndrome – to complete whole body injury investigation is emphasized here.

*Robert Pichler, Sigbert Krieglsteiner, Gabriele Wurm,
Cornelia Adelwöhrer, and Johannes Fischer*

References

1. Knapik JJ, Craig SC, Hauret KG, Jones BH (2003) Risk factors for injuries during military parachuting. *Aviat Space Environ Med* 74: 768–774
2. Hollenberg GM, Beitia AO, Tan RK, Weinberg EP, Adams MJ (2003) Imaging of the spine in sports medicine. *Curr Sports Med Rep* 2: 33–40
3. Holder LE (1993) Bone scintigraphy in skeletal trauma. *Radiol Clin North Am* 31: 739–781

Key words: Parachute injury, bone scan.

Correspondence: DDr. Robert Pichler, Institute of Nuclear Medicine, Wagner Jauregg Hospital, Wagner-Jauregg-Weg 15, 4021 Linz, Austria, E-mail: Robert.Pichler@gespag.at