

Imaging algorithm in suspected non-accidental injury

Abstract

This thesis focuses on radiologic investigations in children with suspected non-accidental injury (NAI) with emphasis on children below two years of age. It is the first Czech original and review work on this topic. The aim of this work is to evaluate current practise in Czech hospitals and to assess benefits of skeletal imaging in children younger than two years with suspected NAI. The theoretical part of the thesis presents a summary of up-to-date information on radiologic imaging of children with suspected NAI and provides an overview of international expert literature. The empirical part of the thesis presents four scientific projects: a survey among Czech radiologists and three studies aimed at skeletal imaging in children with trauma suggestive of NAI. The results of these works show that evaluation of children with suspected NAI is not standardized and that skeletal imaging is not performed in all appropriate situations. At the same time, the results show that skeletal imaging may show clinically occult fractures, while the effective dose is reasonably low. The thesis also brings suggestions for improvements and topics for further research. The appendices to this work include the recommendations *Postavme se na stranu dětí. Doporučení pro využití zobrazovacích metod při podezření na týrané dítě*. These recommendations were ratified by the board of the Czech Radiologic Society and supported by the Czech Pediatric Society and Czech Society of Paediatric Neurology.

Keywords

abusive head trauma, non-accidental injury, classic metaphyseal lesion, skeletal survey, child abuse, fracture, radiology